

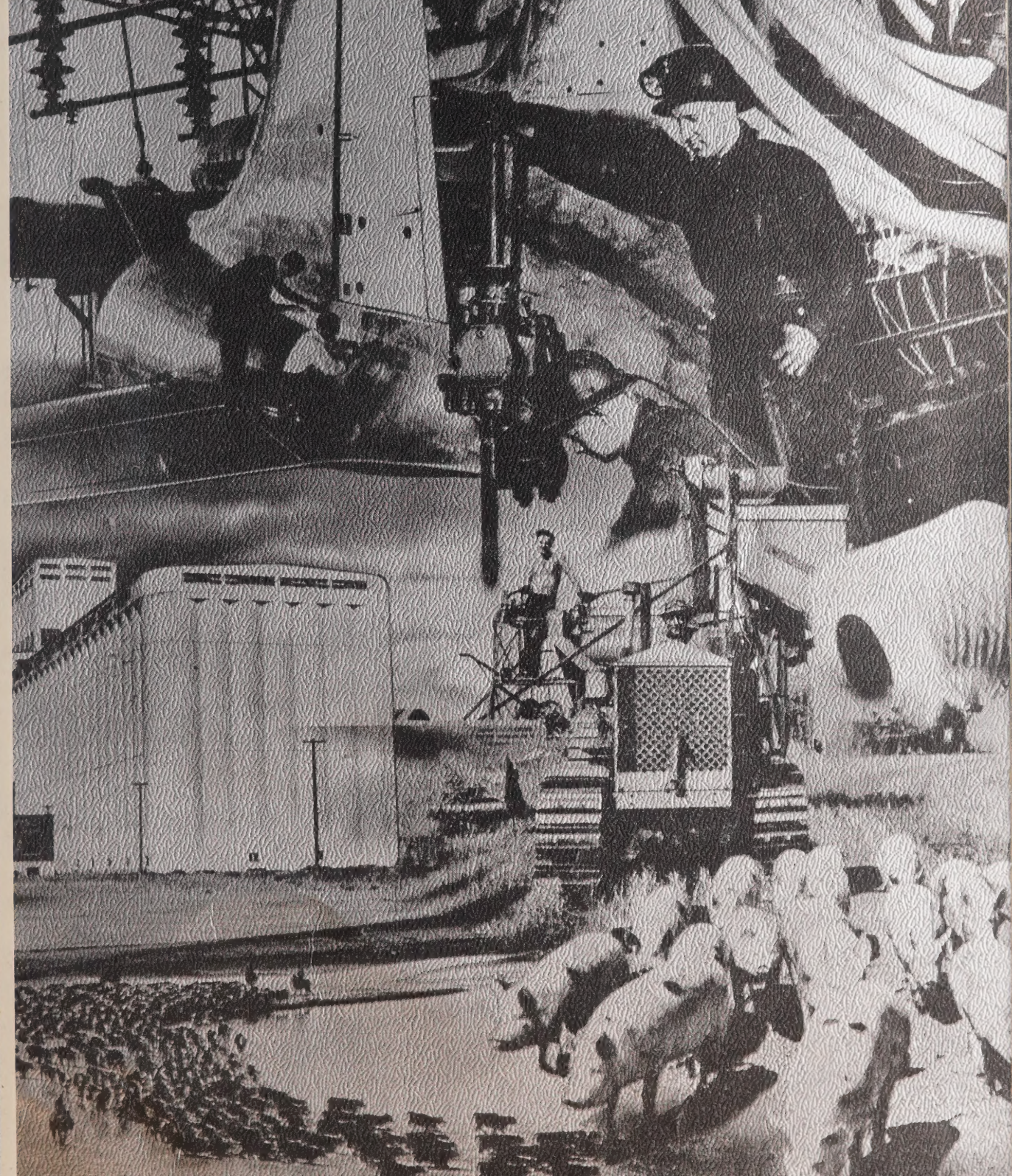
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Canada Foreign Trade Service

Canada Produces...

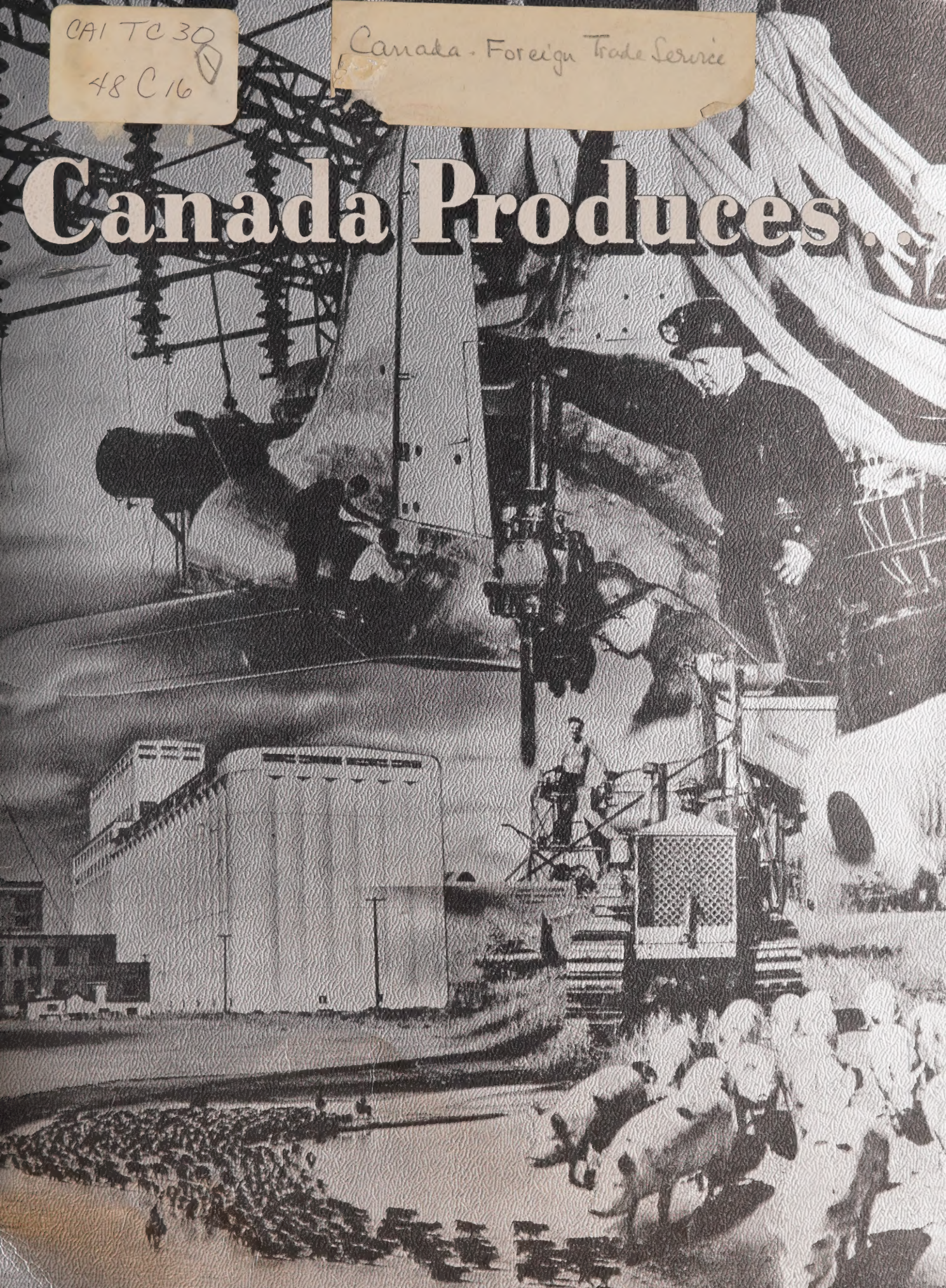


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Canada - Foreign Trade Service

Canada Produces...





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Prepared by
Foreign Trade Service
Department of Trade and Commerce



PRODUCTION IN CANADA

CANADA is a prominent primary producer, having established a high reputation for the quantity and quality of her foodstuffs, forest products, non-ferrous metals, non-metallic minerals and furs. The pattern of her economic development has changed substantially down through the years, influenced to a large extent by two world wars, and the net value of her output of manufactures is now over fifty per cent of her total production. Cheap water power has contributed greatly to this condition, installations in the Dominion having increased from 173,000 h.p. at the turn of the century to nearly 10,500,000 in 1948. Canada is fortunate in having the largest fresh water area of any country, much of it far above sea level, which provides the basis for industrial growth. At a time of worldwide unrest, Canada has been singularly blessed with a minimum of labour-management disputes with resulting production stoppages.

Science and technology have contributed to the dynamic expansion of Canada, much of this being

apparent in the field of agriculture. The size of farms increased with the provision of power-driven equipment, and material improvements were achieved in the varieties of farm products. More food was provided for domestic consumption and made available for export, while the development of new methods of preserving, processing and transporting perishables enabled them to be moved over long distances at relatively small cost. Machinery released farm labour for work in urban areas, where secondary industries flourished as improved transportation facilitated the movement of raw materials to central points for processing and distribution.

Density of population provides some indication of the productivity and development of a nation. Canada is relatively new, sparsely settled and has many untapped natural resources. Excluding the Northwest Territories, the population density was 5.74 to the square mile in 1941, the last year in which a census was taken, which compared with 717 for the Netherlands, 712 for Belgium and with 507 for the United Kingdom,

among the most thickly populated areas of Europe at that time. It may also be compared with a density for Australia of 2.4 people to the square mile. The 1941 census placed the population at 11,506,655, of which 54.34 per cent lived in urban areas and 45.66 in rural areas. A total of 82.5 per cent were born in Canada.

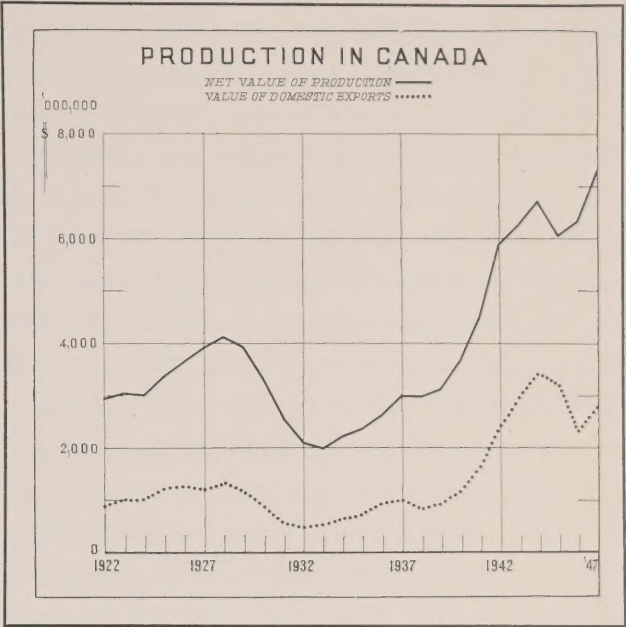
The working force of any country depends to a large extent on its natural resources and the stage of their development. This is particularly true of Canada, which may be divided into four distinct economic areas. The Maritime Provinces have as their principal resources lands, forests, mines and fisheries, while Ontario and Quebec possess lands, forests, mineral wealth and abundant water power capable of extensive development. Agricultural production features the Prairie Provinces, though they have coal and oil in the foothills and eastern slopes of the Rocky Mountains. Finally, British Columbia is noted for its fish, forests and mines, together with agriculture and hydropower. Potentialities of the Northwest Territories and the Yukon have yet to be fully determined, but it is known that considerable wealth can be developed in those regions.

One-quarter of the gainfully occupied population of Canada is engaged in agriculture. Secondary industries, however, contribute approximately 65 per cent to the total net value of production. Manufacturing alone accounts for about fifty per cent. For the purposes of this survey, it is proposed to consider industries in the order set forth in the following table:

NET VALUE OF PRODUCTION			
	1939	1946	*1947
	(Millions)		
Manufacturing	\$1,531.1	\$3,332.6	\$3,905.6
Agriculture	722.3	1,603.6	1,600.0
Forestry	271.7	648.4	925.7
Mining	393.2	452.7	539.2
Construction	187.7	335.2	478.4
Electric Power	149.9	211.7	256.2
Fisheries	34.4	92.0	74.6
Trapping	7.9	23.5	17.3

*Preliminary figures.

Manufacturing—Manufacturing in Canada ranges from the mass production in large factories of automobiles and farm machinery, and the custom production of locomotives and ships to the output of



many small articles in workshops employing a few persons. Natural resources are the basis of most manufactures, though raw materials are processed with cheap water power and shipped to many parts of the world. An outstanding example is aluminum, for the production of which bauxite is brought in from British Guiana, cryolite from Greenland and fluorspar from Newfoundland. In order of their net value of production, the eight main manufacturing groups in Canada are: Iron and its products, wood and paper products, vegetable products, textiles and textile products, non-ferrous metal products, animal products, chemicals and chemical products, and non-metallic mineral products.

During the First World War, when the flow of supplies from Europe was severely curtailed and a substantial demand for munitions developed, manufacture was stimulated. More efficient factory methods were introduced and the standard of technical skills was raised. The productive capacity of this country was increased beyond all expectations during the Second World War, and the subsequent rehabilitation of

industry has resulted in a wide diversification of products. The production of plastics was doubled during the period of conflict, and continues in the postwar period. Startling progress in television and frequency modulation may now be extensively developed. Radar should assist in the navigation of aircraft and steamships. Synthetic fibres, such as nylon, will find an increasing demand, together with synthetic rubber. Electronics and fluorescent lighting will influence the volume of production, while the frozen food industry should enable Canada to secure a wider market for her fruits and vegetables. Other products in the manufacture of which much progress has been noted are the "wonder" drugs, prophylactics, etc., synthetic resins and plasticizers, new motor fuels and lubricants, insecticides, synthetic vitamins, new light alloys, machine tools and many others. The greatest expansion was noted in iron and steel products, followed by chemical products, non-ferrous metals, wood and paper products, animal products, non-metallic mineral products and vegetable products. Price increases, as measured by index numbers, accounted for a relatively small part of the 116 per cent advance in the value of manufactures produced between 1939 and 1942, from \$1,531.1 million to \$3,310.0 million, though this condition does not apply to present values.

An extensive "chemical area" has grown up and is continuing to expand around Canada's largest synthetic rubber plant, aided by the proximity of petroleum by-products and salt beds. A result of the postwar development of plastics has been the expansion of the toy industry. Designers and craftsmen have introduced a fresh approach to this trade, which is bringing happiness to children at home and creating a substantial demand in other lands.

Agriculture—Farming occupies a unique position in the Canadian economy. It began as a means of ensuring possession of the country, while supporting those engaged in fish, fur and forest production. Agriculture became the most important industry, as foreign markets awaited increasing supplies of wheat, dairy

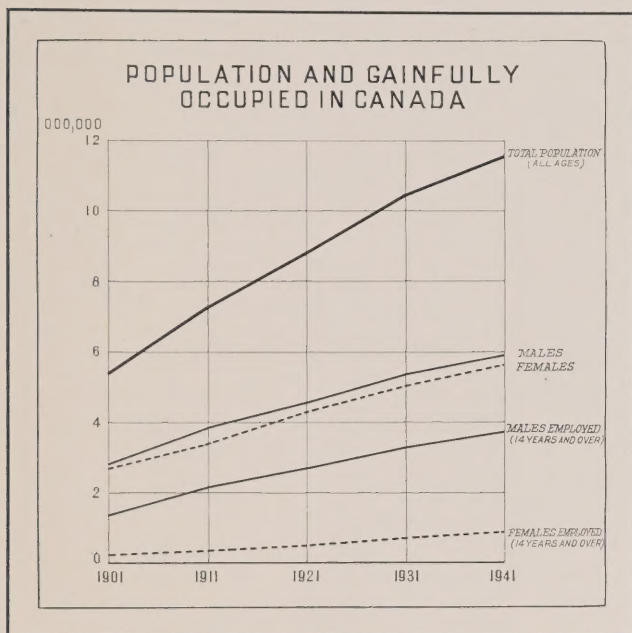
products and livestock, maintaining that position until the depression of the thirties. Although the cultivation of wheat provides farmers with their largest single source of revenue, the cash income derived from the sale of livestock and its products exceeds that from grain. Considerable progress has been made in improving the quality of animals, and a substantial demand has developed in foreign lands for purebred beef and dairy cattle, sheep, swine and poultry raised in Canada.

Technology has stimulated the development of agriculture through the provision of tractors and other motor vehicles, while the combine has largely replaced the less efficient binder and threshing machine. Science has also introduced improvements, such as rust-resistant wheat, hybrid corn, varieties of grain that mature earlier and have greater yields, better beef cattle and cows with greater milk-producing capacity, hens that lay more eggs and chicks that can better withstand climatic changes. More effective chemical fertilizers have also been developed. The quality of food products has been greatly improved. Bacon for Britain is produced to uniform standards required by the British market and flavoured to the British taste. Cheese of cheddar type has established a high reputation over a long term of years. Canadian eggs for export are packed in grading stations under government supervision, while railway cars are heated in winter and iced in summer to maintain the desired temperature during their transportation to seaboard for shipment overseas. Agricultural by-products, such as protein paints and synthetic fibres, are also being placed on the market.

Forestry—Forestry is Canada's second most important primary industry, but the value of her annual exports of wood and wood products exceeds that for any other industry, with newsprint in the lead. Although the timbered territory extends over an area of 1,291,000 square miles, or more than one-third the total land area of the country, it is estimated that the accessible productive portion covers 435,000 square miles, from which the annual output of sawlogs, pulpwood, fuelwood and other primary products is obtained. About 378,000

square miles, classed as productive but not at present accessible, form a timber reserve for the future, when transportation has been more highly developed.

The principal world demand is for softwood, of which Canada has the largest reserves in the British Commonwealth of Nations. These include spruces, Douglas fir, western hemlock, western red cedar, and white, red and other pines. Hardwoods, such as birch, maple and elm, are produced largely in the Eastern Provinces.



This raw material is used in the manufacture of many commodities, some made almost entirely of wood, wood-pulp or paper. Some consist of articles in which wood is the principal component, and others comprise items in which wood represents only part of the value. The first class includes newsprint, planks, boards and timbers, sash, doors, other mill-work and planing mill products, veneers and plywoods, boxes, baskets, cooperage and other containers, canoes, boats and small vessels, kitchen, bakery and dairy woodenware, wooden pumps, piping, tanks and silos, spools, handles, dowels and turnery. The second class includes furniture, vehicles and vehicle supplies, cradles and coffins, paper boxes, bags, stationery and other paper goods. The third class, in which wood is of secondary importance,

includes agricultural implements, railway rolling stock, musical instruments, brooms and brushes.

The newsprint capacity of Canada is four times that of any other country, while production is more than half the aggregate of all countries. Wood-pulp production is second only to that of the United States. Fine paper, wrapping paper, tissues, paperboard and other cellulose products are manufactured. There are over eighty pulp and paper companies in Canada, operating 113 mills in six provinces during 1946. Their total capacity of products for sale is estimated at 7,000,000 tons per annum, of which 4,200,000 tons consist of newsprint, 1,100,000 tons of other papers and paperboard, and 1,700,000 tons of pulp.

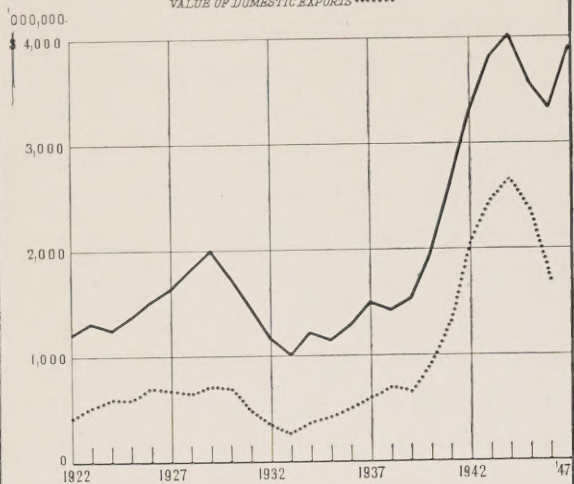
Large resources of timber and hydropower in juxtaposition have made possible the expansion of Canada's pulp and paper industry. The broad network of rivers has provided for the transportation of logs to the mills at low cost, while the inland waterways and the fact that some of the timbered territory is adjacent to the ocean have facilitated the movement of finished products to markets of the world. Canadian newsprint is shipped to seventy countries, where it carries the written word to millions in many languages.

Mining—Mineral production in Canada dates from the earliest settlement, and reached its peak in 1942 with a total value of \$566,800,000, an unprecedented demand for base metals having been created at that time by the world conflict. The aluminum industry alone was expanded to six times its prewar size, made possible by a wealth of hydropower. The raw materials were imported, however, bauxite being brought in from British Guiana, cryolite from Greenland and fluorspar from Newfoundland.

Mining is the third most important primary industry in Canada, which is the largest producer in the world of asbestos, nickel, platinum and radium, the second largest producer of aluminum, gold and zinc, the third largest producer of copper, and the fourth largest producer of lead and silver. The output of magnesium, molybdenite and tungsten, metals that were formerly

MANUFACTURING IN CANADA

NET VALUE OF PRODUCTION ———
VALUE OF DOMESTIC EXPORTS





Canadian-built locomotives for France, one of seven countries to which such equipment was exported in 1947.

PRODUCTION IN CANADA—*Continued*

imported, was substantially increased during the war years, while that of steel fills approximately three-quarters of the domestic requirements. Metallurgical processes were extended to include final refining operations of sufficient capacity to handle the major part of Canada's mineral production.

Iron is not considered a major Canadian product, but water transportation makes available to smelters in this country large quantities of ore from the Lake

Continued on page 11

Blast furnaces of a large steel plant in Hamilton, Ontario. ➤

◀ *Steel industry of Canada contributes substantially to the national economy with an annual production of 2,000,000 tons of pig iron.*

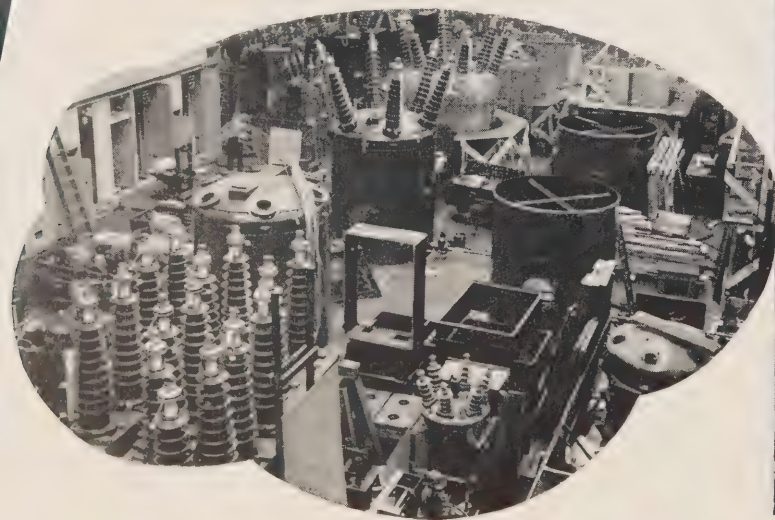




▲ Four-engined aircraft, designed for transatlantic and transcontinental services, near completion in Montreal.

Part of a double-drum mine hoist being shipped to China. ➡

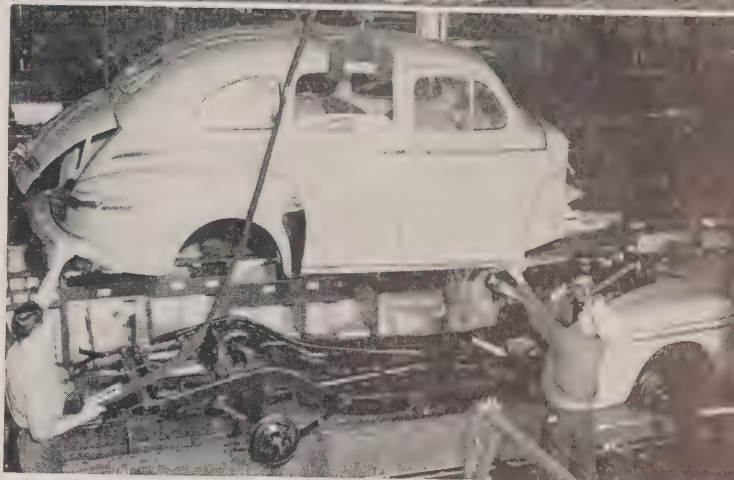
➡ Heavy electrical equipment under construction in a Canadian plant.



Atomic energy project at Chalk River, west of Ottawa, where extensive research is under way. ➡

Centre
One of six cargo liners built in Montreal for Brazil. Canada's ship-building facilities were expanded to a remarkable extent during the war.

Bottom
Tractors and combines awaiting delivery. Canadian agricultural machinery is exported to all parts of the world.



Body of automobile, complete with trim, upholstery and instruments, is guided into position on its chassis. ➡





Skeins of lustrous rayon yarn, produced from wood by chemical treatment, are woven into dress and drapery fabrics. ➡



PRODUCTION IN CANADA—Continued

Superior region of the United States and from Newfoundland at low cost. With the depletion of ore bodies in the United States, it is expected that the large deposits of extremely high-grade ore, known to exist north of the international boundary, will become ever more important in the economy of North America.

Although coal is produced in the eastern and western provinces, the great distances that separate the mines from the regions of greatest industrial development introduce high transportation costs that are a material factor in marketing the fuel. Over 64 per cent of Canada's requirements are filled from the United States, the coal being delivered mostly to the adjacent provinces of Quebec and Ontario. This coal is used extensively throughout the industrial field, either for heating factories in winter or in the manufacture of many products, such as steel, bricks, cement, glass, lime and tile, in oil refineries, breweries and distilleries,

Continued on page 15



◀ Sixteen hundred cords are webbed in a latex solution in the manufacture of automobile tires. Ninety-two countries bought Canadian tires and inner tubes in 1947.

Artificial silk dresses are shipped to some forty foreign lands. Exports of fibres and textiles in 1947 were valued at \$50,000,000.

Electrical parts being assembled in a radio chassis. Many electrical appliances are manufactured in Canada.



Canadian toys bring joy to children in some sixty countries.

Sealing 200-watt electric lamp bulbs.



Spools of cotton yarn on "warping" machine. Canadian textile industry is growing rapidly in importance.



Synthetic rubber plant at Sarnia, Ontario, around which an extensive "chemical area" is being developed.



Moulded plastic telephone handsets leave the hydraulic press.



Cutting out soles for boots and shoes. Exports of leather products in 1947 were valued at over \$20,000,000.

Producing designs for rayon dresses.



Knitting machines that turn out full-fashioned stockings.



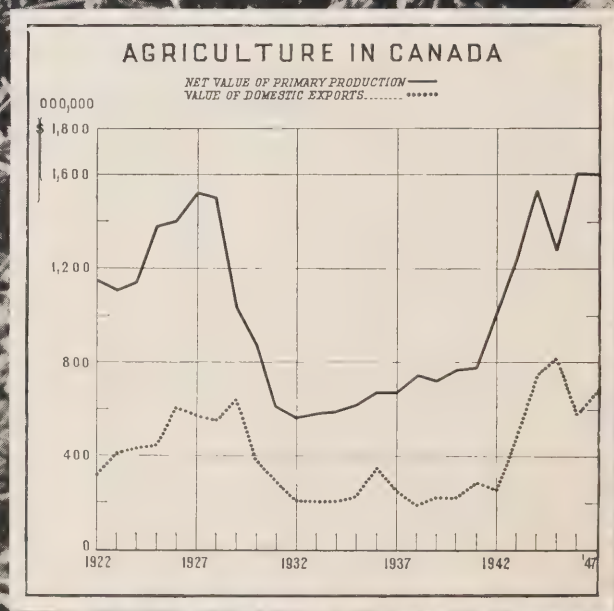
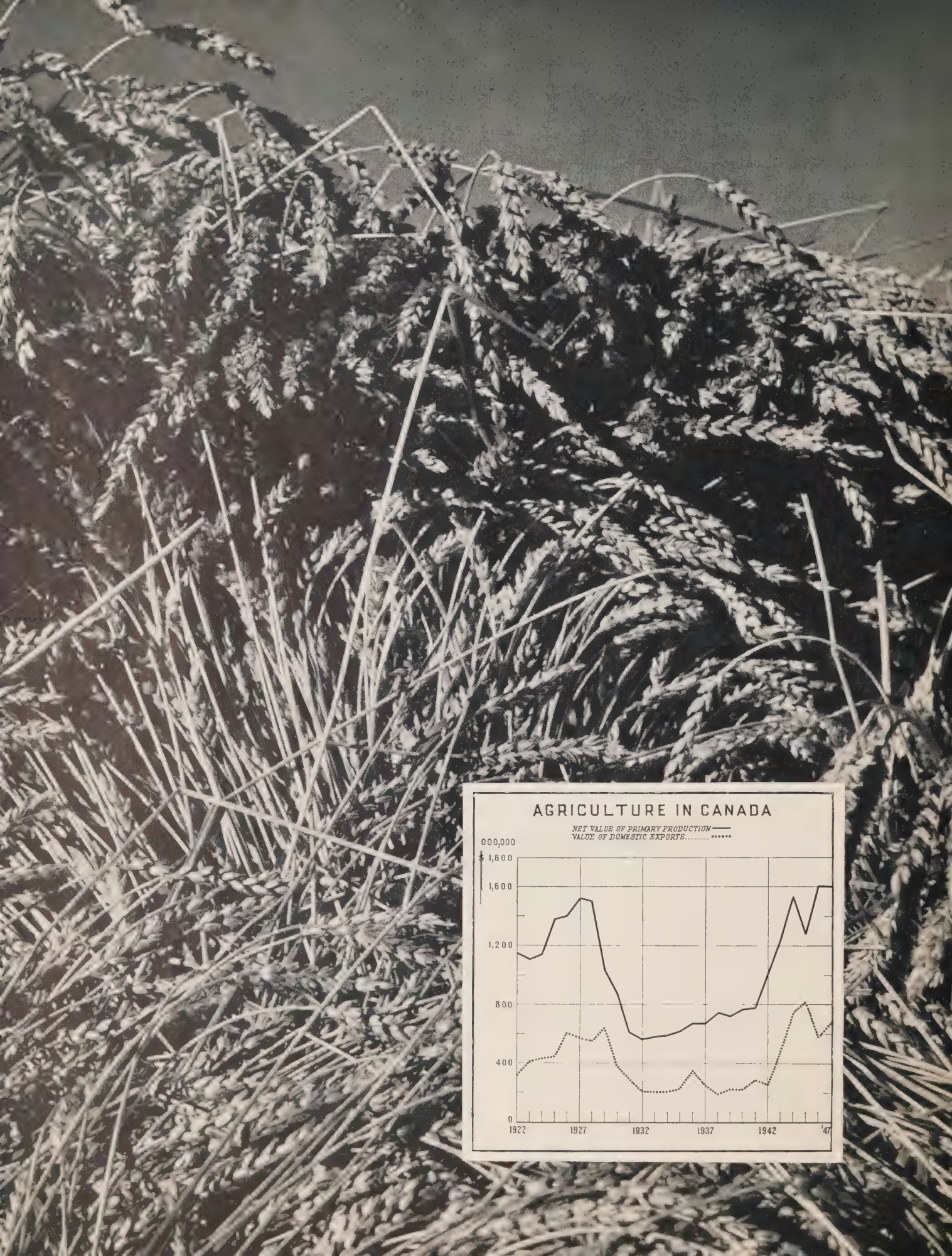
Washing wool from Canadian sheep, of which there are more than three million in this country.



Domestic washing machines nearing completion.



Aluminum kitchen utensils are exported to fifty-six countries.





Field of stooked wheat on the Prairies, from which much of the world's import requirements are filled.

PRODUCTION IN CANADA—*Continued*

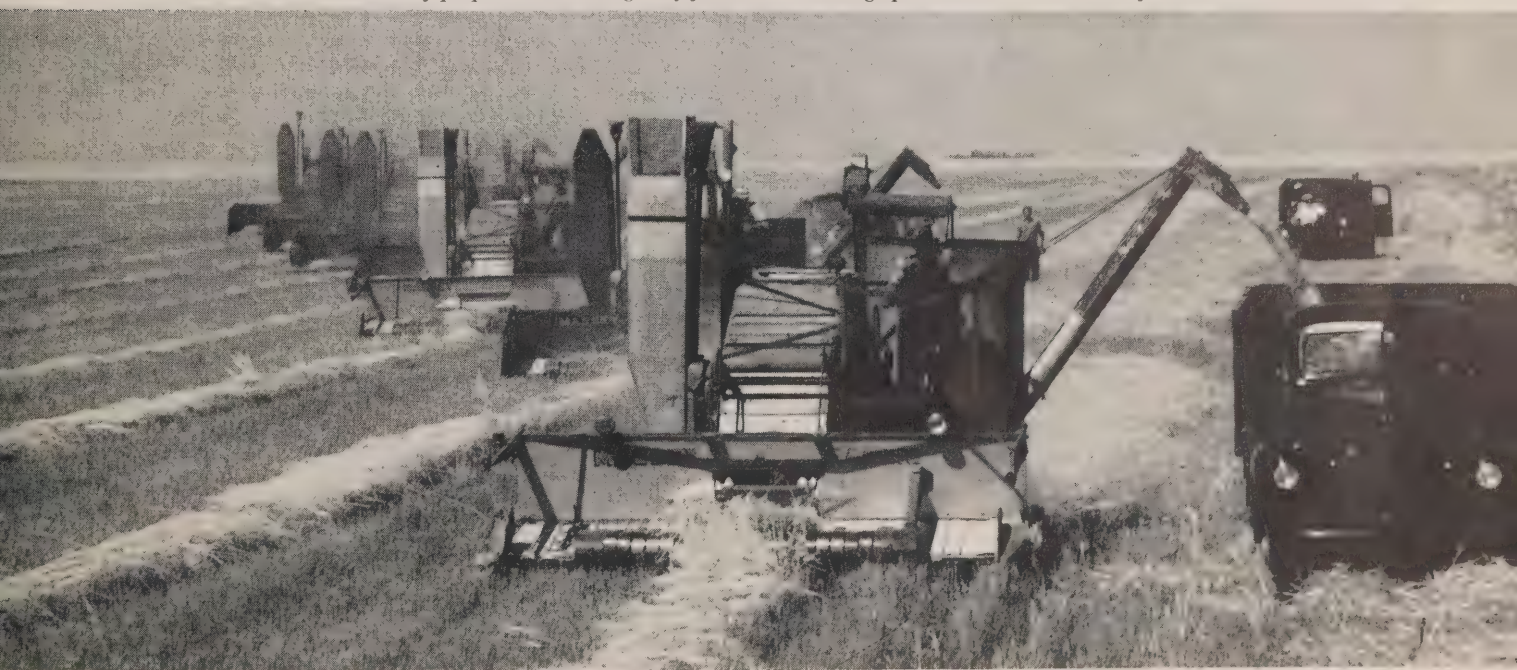
in the preparation of certain foods and by the railway companies. During the season of open navigation on the St. Lawrence River, large quantities of coal are shipped from Nova Scotia to Montreal and other industrial centres on the Great Lakes.

Crude petroleum production reached a wartime peak of 350,000,000 Imperial gallons, of which more than ninety per cent were obtained from wells in the western province of Alberta, with small amounts from those in the Northwest Territories, Ontario and New Brunswick.

Petroleum from the wells at Fort Norman, within a few degrees of the Arctic Circle, furnishes power for the operation of an important "radium" mine on Great Bear Lake, where deposits of pitchblende were discovered in 1930. It also contributes to the development of rich gold deposits in the vicinity of Yellowknife, on Great Slave Lake. Natural gas is available to industry in Alberta, Ontario and New Brunswick, and is piped directly into homes near its source for heating and cooking purposes.

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Modern, self-propelled combines greatly facilitate harvesting operations over wide areas of Canada.



Canadian wheat, of which 160,426,000 bushels were exported in 1947 as grain and 18,082,000 barrels as flour.



▲ "Liberty Domino", first Polled Hereford steer to win grand championship at Royal Winter Fair, in Toronto. Canada raises many pure bred animals, which find a ready sale in foreign lands.



▲ Ninety-five per cent of all Canadian hogs are of bacon type. Bacon for Britain is produced to uniform standards required by British markets, and flavoured to British taste.



▲ Cattle fording the Milk River, in Southern Alberta, on their way to summer pasture. Canada has an estimated 10,000,000 head of cattle.



▲ Poultry population exceeds 88,000,000 birds. These have been dressed for domestic sale, but can be shipped abroad in same condition.

▲ Egg production is around 347,000,000 dozen a year, of which 56,454,000 dozen shell eggs were shipped to Britain in 1947, in addition to sugar dried eggs.





Apples of the highest quality are produced in profusion, especially in the Maritime Provinces and British Columbia.



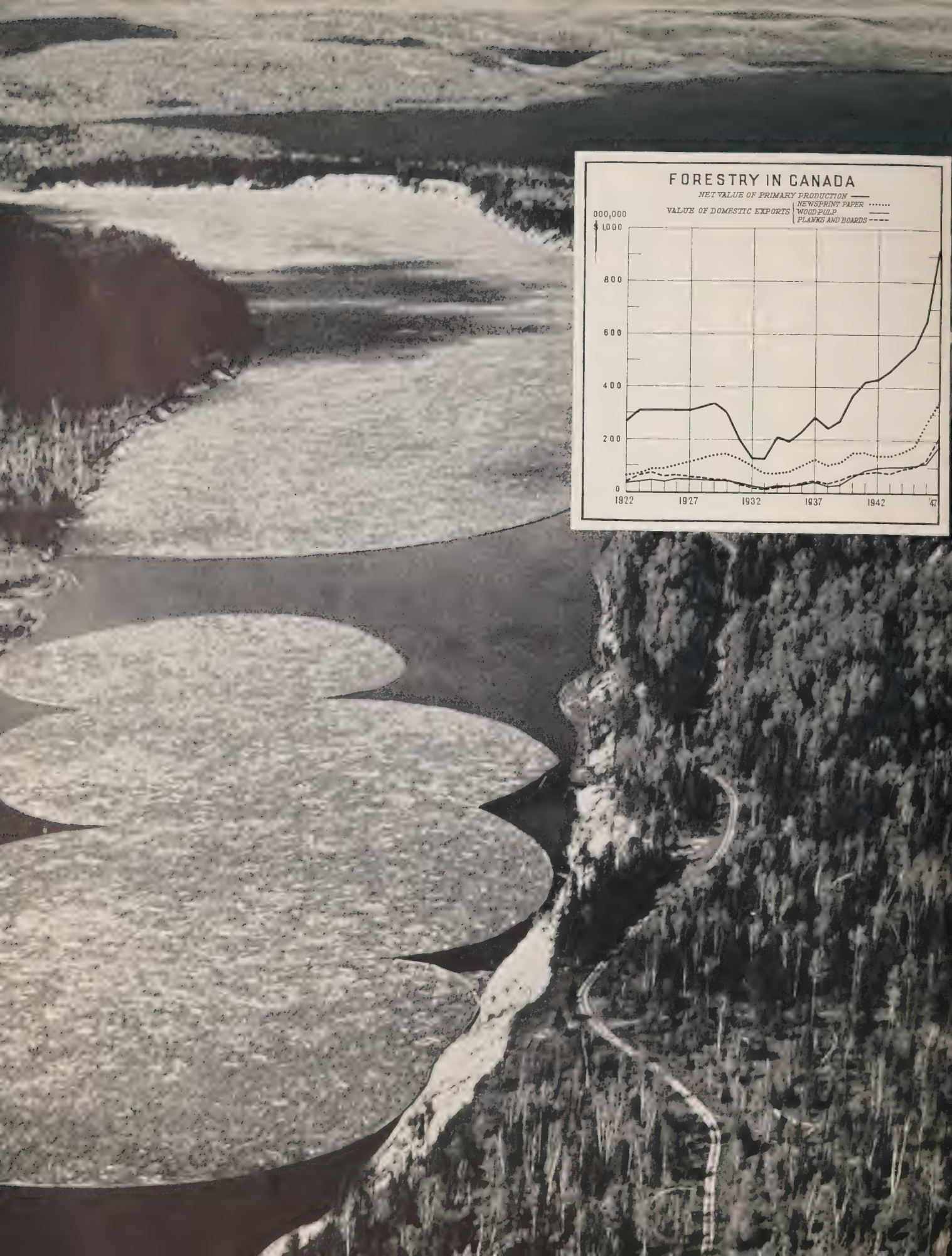
Canadian tobacco in a kiln house. Annual production is over 90,000,000 pounds, of which about 80 per cent is flue-cured.



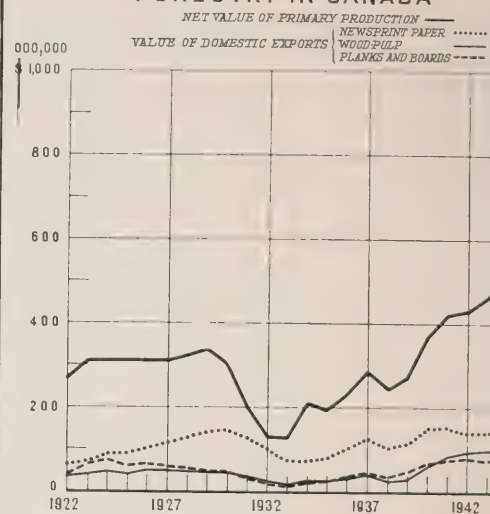
Canadian cheddar cheese, of which 143,509,000 pounds were produced in 1946, predominates. Roquefort and Cheshire types are available in small quantities, with Oka, Trappist and others having an appeal to connoisseurs.



Largest privately-owned ranch in Canada, at Kamloops, British Columbia, covers 500,000 acres, has 500 miles of fencing, 10,000 head of cattle and employs some 250 men.



FORESTRY IN CANADA





Logs, from four to eighteen feet, jam four miles of the Gatineau River, north of Ottawa. Over 12,500,000 logs flow annually down this stream.



Fallers swing keen-edged axes in making the under cut, which determines the direction in which this Douglas fir will fall.



Skyline cables facilitate the transfer of logs from mountain slopes of Western Canada.



Logs are hauled in winter to the frozen surfaces of lakes and rivers to await the spring thaw.

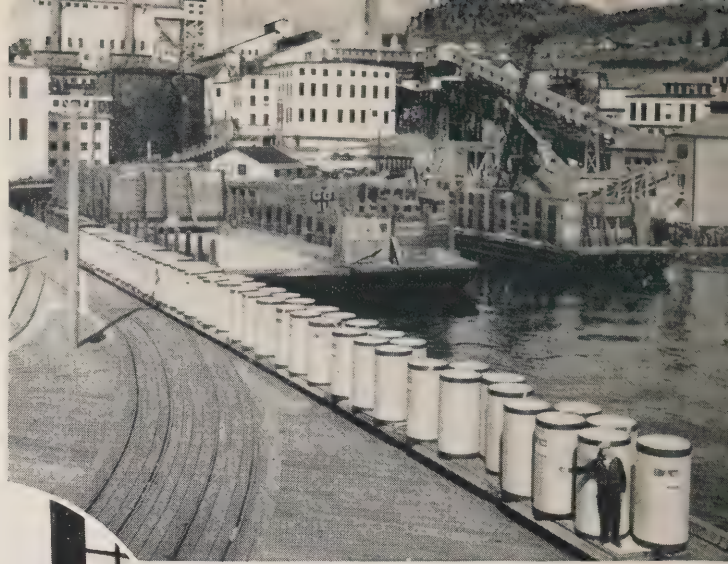


Timber, felled in the 435,000 square miles of productive forests considered accessible at this time, is hauled to the rivers, and floated to paper and saw mills. Logs are seen here in booms.

Groundwood or mechanical pulp, which represents about 60 per cent of the annual wood-pulp production of 5,601,000 tons, being loaded for shipment overseas.

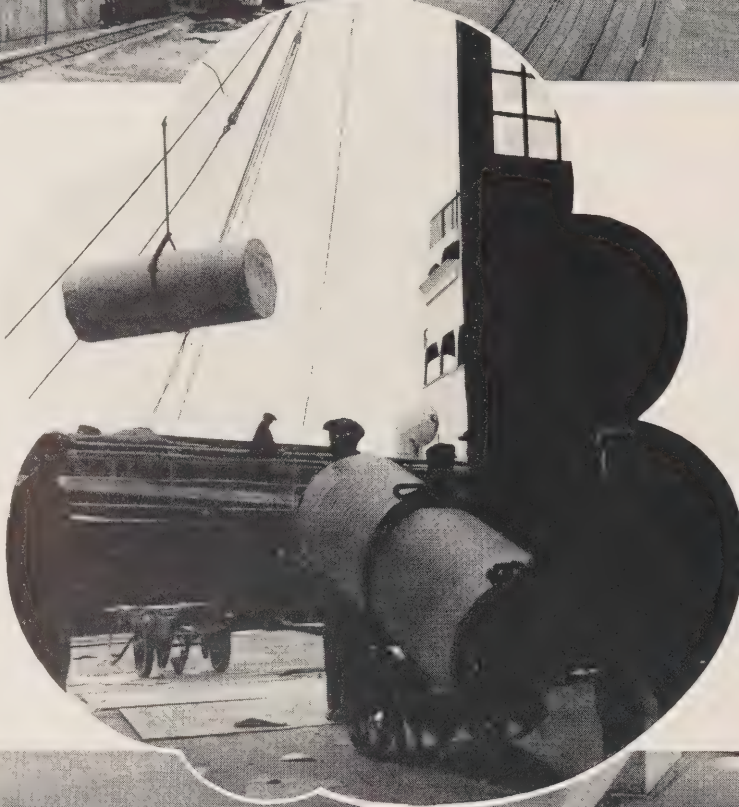


▲ Unloading pulpwood at a port on the Great Lakes, which provides a great inland waterway.



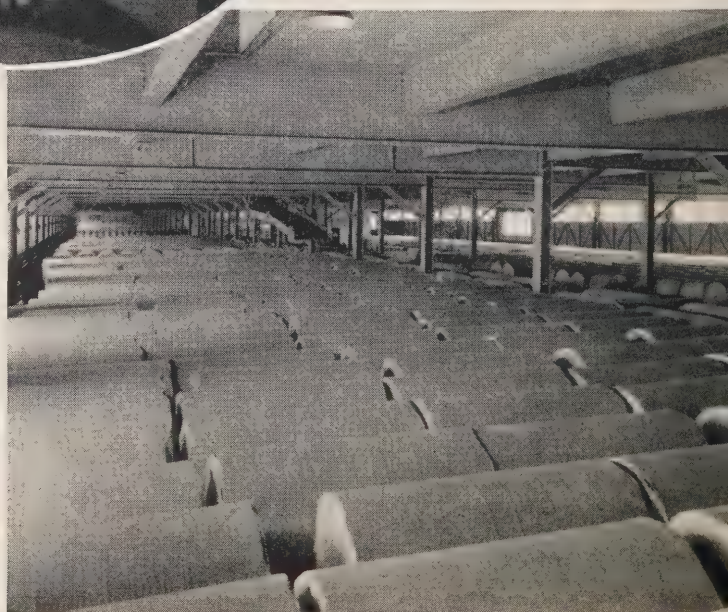
▲ Rolls of paper await shipment from a Pacific Coast mill to Central or North America, Australia or New Zealand, Shanghai or Singapore.

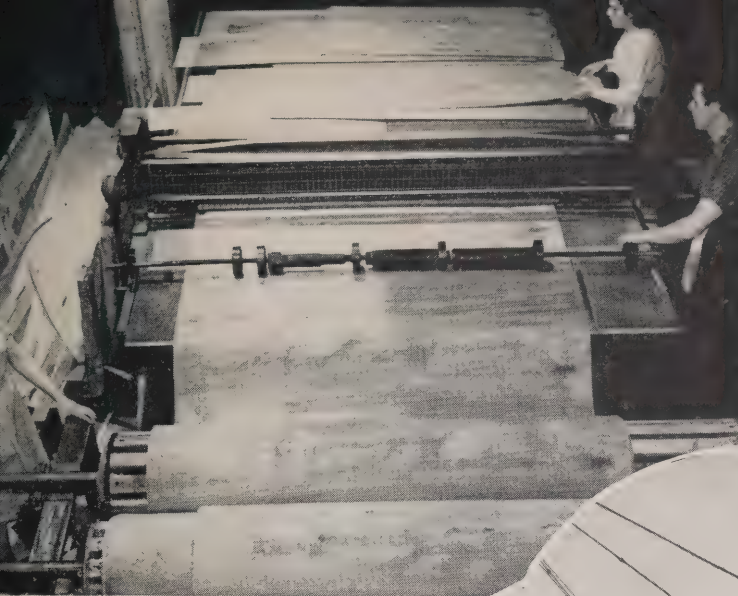
➡ Loading newsprint paper in Halifax, Nova Scotia.



➡ Townsite, piles of pulpwood and booms of logs at Marathon, Ontario, where a pulp mill has been in operation for little more than a year.

➡ Wealth of newsprint in a large transit shed at Wolfe's Cove, Quebec, awaiting shipment overseas.





▲ Veneer, peeled by lathe from log bolts, is cut according to grade. The sheets then are dried and used in manufacture of plywood.

Much lumber, manufactured in British Columbia, is transferred by barge to Vancouver. Mill waste, formerly burned in stack at centre, is now converted into pulp material.



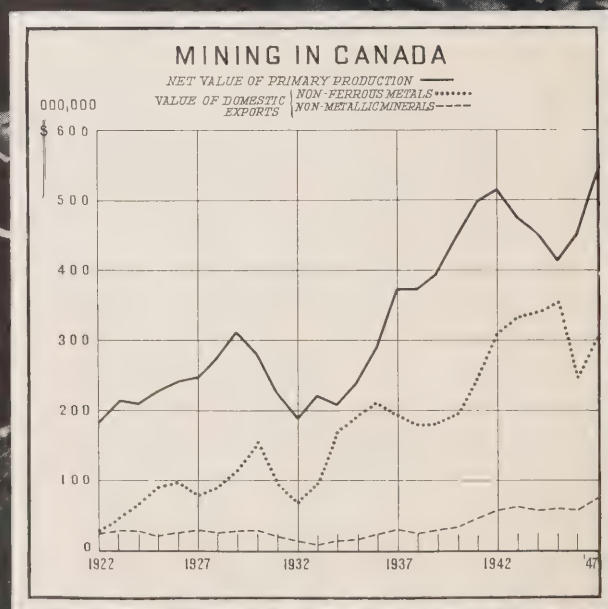
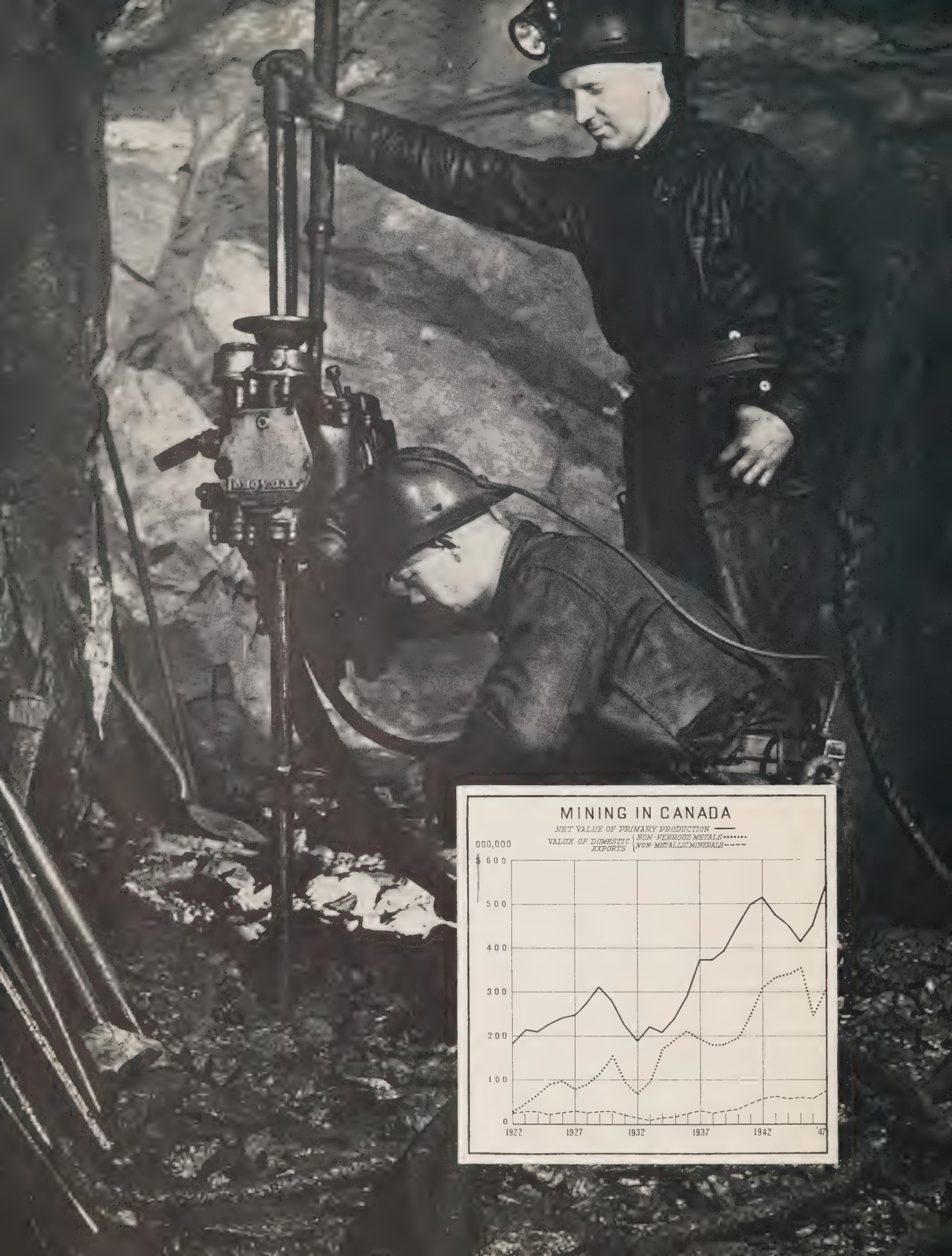
▼ Large log, on "jack ladder" lift, moves relentlessly from the Pacific to a saw mill, where it will be quickly converted into planks.



▲ Paper towels, packed in cardboard cartons, are carried by conveyor to the shipping room.

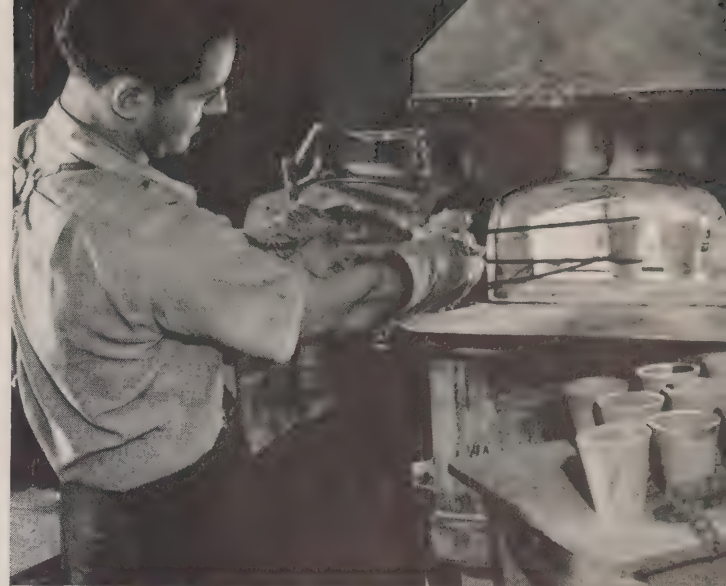
▼ Pulp logs, sometimes forty feet long and of large diameter, are reduced to four-foot lengths for the grinders of paper mills on the Pacific Coast.







Coal is produced in Eastern and Western Canada.



Assaying samples of gold from mine in Northwest Territories.



Tapping slag from a lead blast furnace at Trail, British Columbia, where is located largest non-ferrous smelter in the world.



"Flotation cells" at Noranda, Quebec. These float the copper sulphide, separating it mechanically from the remainder of the ore.

PRODUCTION IN CANADA—Continued

Construction—Construction is an important factor in the development of Canada, and experience gained in building railways, highways and bridges, harbours and airports, power plants and irrigation works, grain elevators, factories and mine structures, and in some of the less impressive but equally important building trades has enabled Canadian engineers to assist in the establishment of similar projects in other parts of the world. They are in a position, also, to recommend the purchase of Canadian equipment, which has already

achieved a high reputation in many countries. Expenditures of railways on maintenance of way, on structures and for equipment are not included in the totals for the construction industry. The latest figure for steam railways is \$212,900,000 over a period of twelve months.

Transportation—Transportation is an important factor in any survey of production, and has contributed in no small measure to the development of Canada by virtue of the vast distances and small

Continued on page 27

Drilling operations in a Canadian gold mine. Mineral production reached a peak of \$566,800,000 in 1942, due to unprecedented demand for base metals.



➤ Fertilizer, a chemical by-product of the mining industry.



Oil refinery in Turner Valley, Alberta. New fields are being developed in this province. ➤

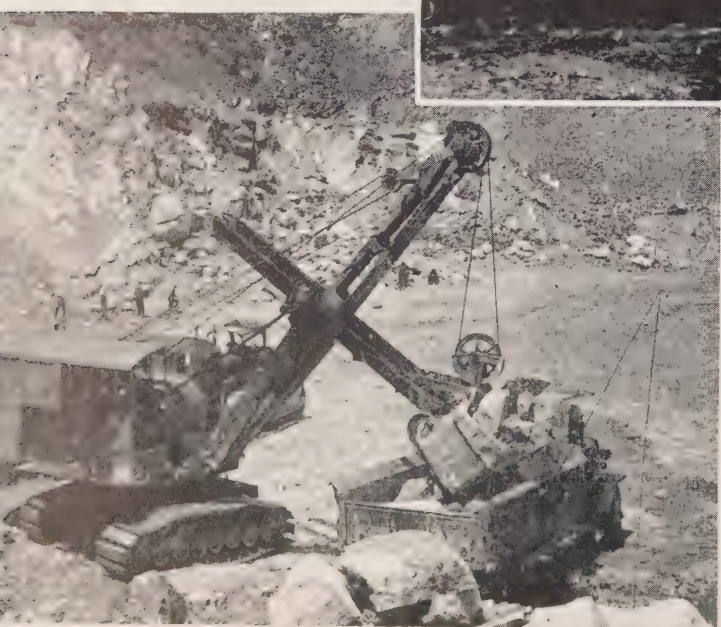
First oil from a new well is mixed with spent acid and burned out before the well is connected with tanks.



➤ Loading asbestos rock at Thetford Mines, Quebec. Canada is the source of 70 per cent of the world's supply.

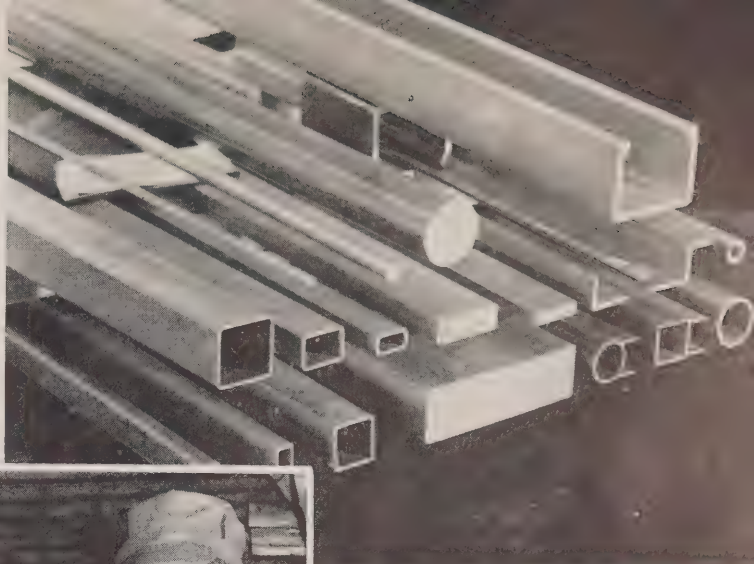


Processing asbestos, a fibred mineral that resists fire, wear and weather. ➤

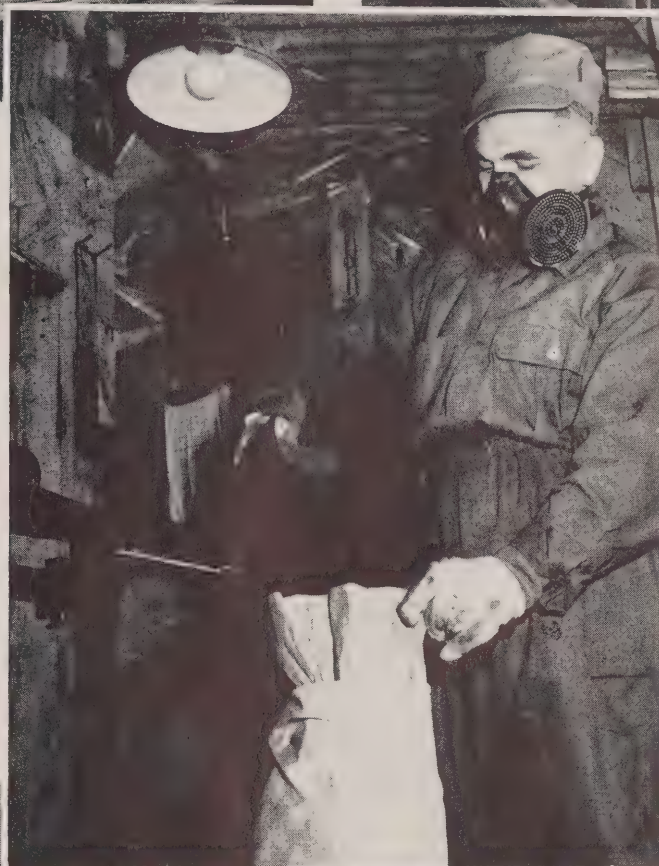




▲ Lead refinery at Trail, British Columbia.



▲ Magnesium of very high purity is produced in larger quantities than required for domestic use. Large amounts are available for export.

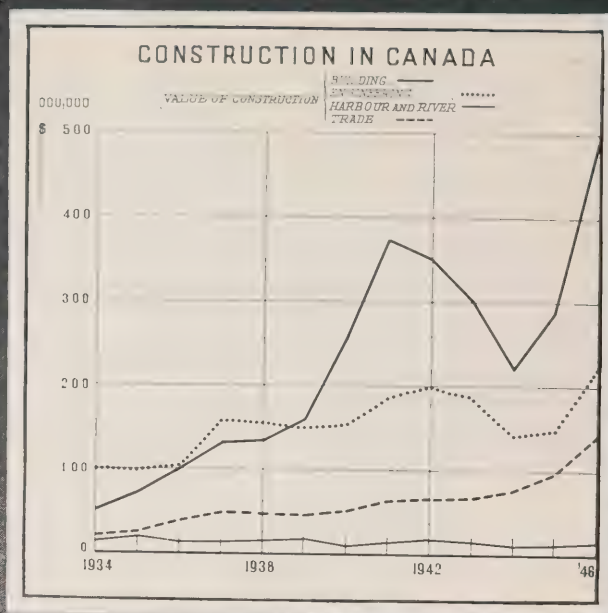
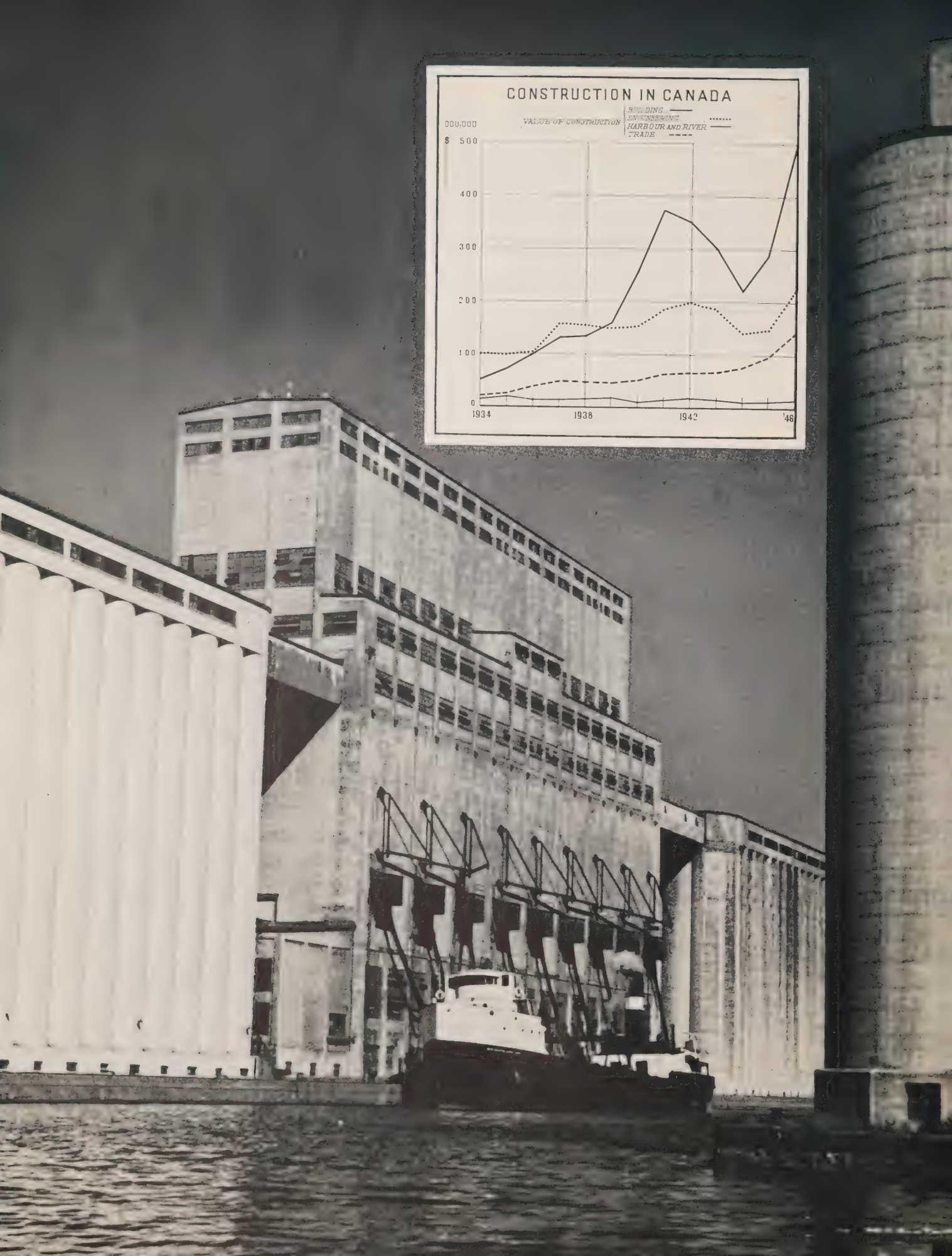


Uranium concentrate, produced from pitchblende in Northern Canada, is shipped to Port Hope, Ontario, for refining.

▼ Giant Yellowknife Gold Mine, on the shores of Great Slave Lake. Ore is of high grade and the reserves are substantial.

▼ Miners on the 1,900-foot level at Noranda, Quebec, chipping samples to be processed in the assay laboratory to determine their ore value.







Harbour at Quebec, one of eight administered by the National Harbours Board. It is 800 miles from the sea, and its facilities include a grain elevator with a capacity of 4,000,000 bushels, a cold storage warehouse and fish house. The Anglo-Canadian Pulp and Paper Mills are seen at the left of this air view, with the Island of Orleans beyond.

PRODUCTION IN CANADA—Continued

population thinly dispersed along the southern strip of a large territory. Special problems are introduced by the geographical character of the country. Rough, rocky, forest terrain between New Brunswick and Quebec, and extending through Northern Ontario to the wheat lands of Manitoba, furnishes little freight for the railways. The Rocky Mountains, whose snow slopes provide the prairies with much of their moisture, are a barrier between British Columbia and the rest of Canada.

Nevertheless, facilities of a high calibre are provided

by the Canadian National and Canadian Pacific Railways over some 42,000 miles of track. Both companies operate express services for the rapid door-to-door delivery of goods, and maintain telegraph facilities that are linked with those of cable and wireless companies to provide communication with all parts of the world.

Waterways of Canada, including canals, inland lakes and rivers, are open on equal terms to the shipping of all countries, though they may not engage in the coastal trade. Specially designed bulk and package freighters utilize an extensive system of canals between Montreal

Continued on page 39

◀ *Canadian elevators provide permanent storage for 409,000,000 bushels of grain, of which 76,000,000 are at Fort William—Port Arthur, where a lake steamer is shown loading.*

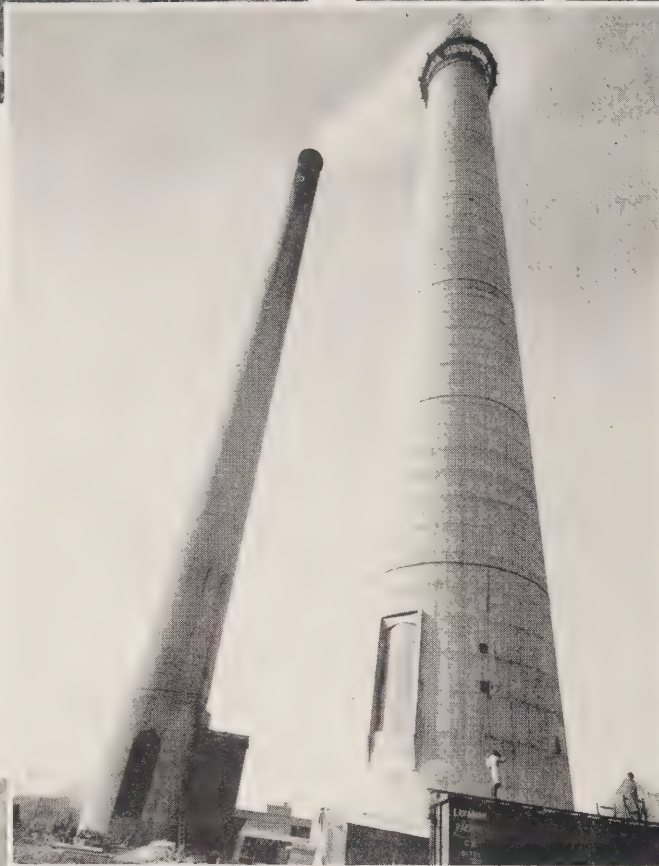


▲ Jacques Cartier Bridge spans the St. Lawrence at Montreal and provides clearance for 20,000-ton ocean liners.



▲ Railway and highway construction in Ontario.

New 500-foot stack under construction.

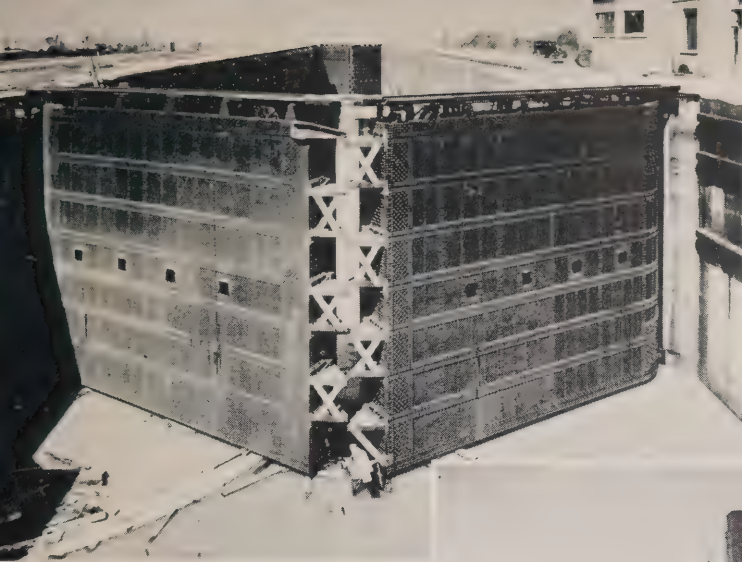


Teslin Bridge, longest single structure on Alaska Highway, between Edmonton and Fairbanks. ▼

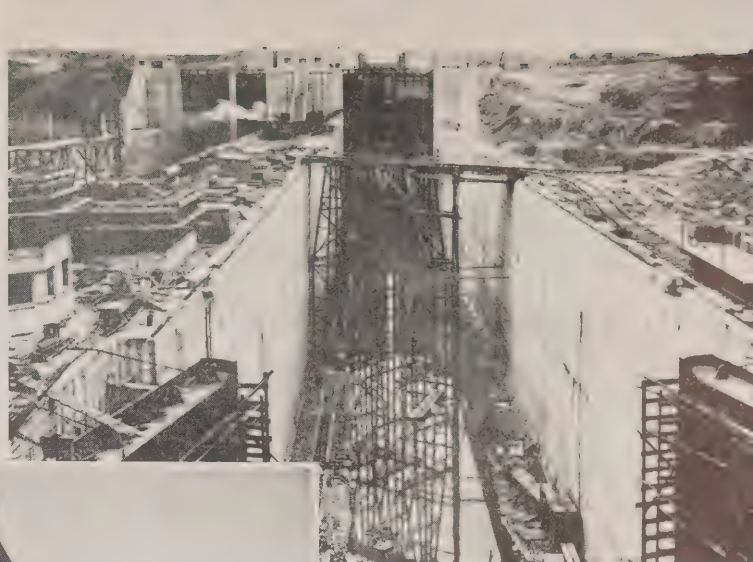


▼ Quebec Bridge, 1,800 feet between piers, is longest cantilever bridge in the world.





▲ Lock gates on Welland Ship Canal, connecting Lakes Erie and Ontario.



▲ Construction of three double locks of Welland Ship Canal. Each has length of 820 feet, width of 80 feet and depth of 30 feet.



Hotel Vancouver has sixteen storeys and accommodation for 600 guests.

▼ Grain elevator at Churchill, on Hudson Bay, has capacity of 2,500,000 bushels.



▼ Extending the "end of steel", a familiar term in the construction of Canada's transcontinental railways.



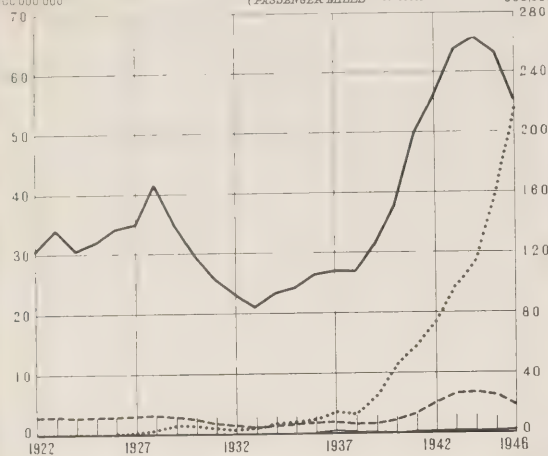
TRANSPORTATION IN CANADA

SCALE
FOR
RAILWAYS
DATA
100,000,000

STEAM RAILWAYS
AIRWAYS

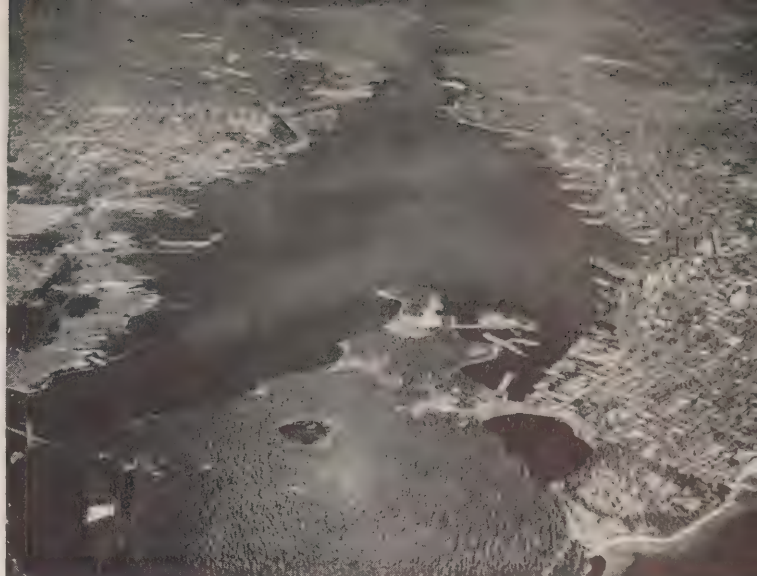
FREIGHT TON MILES
PASSENGER MILES
FREIGHT TON MILES
PASSENGER MILES

SCALE
FOR
AIRWAYS
DATA
1,000,000





Harbour of Montreal, 1,000 miles from the sea, is terminus of 20,000-ton ocean liners.



Air view of Vancouver, Canada's Western gateway, which has a fine natural harbour.



▲ *Pressurized "North Star" air liner leaves Dorval Airport, Montreal, for Scotland.*



▲ *Air cargo being checked before loading aboard an aircraft of Trans-Canada Air Lines, bound for Britain.*

Some 42,000 miles of track, extending nearly 4,000 miles from Atlantic to Pacific and traversing the mighty bulwark of the Rocky Mountains, provides Canada with an efficient transportation system.



◀ *Westbound "Continental Limited", of Canadian National Railways, is dwarfed by Mount Robson, whose 12,972-foot peak is highest in the Canadian Rockies.*



Canadian Pacific Railway yards in Winnipeg, where there are 315 miles of track.



One of the locomotives used to pull "Royal" train during the visit of Their Majesties the King and Queen in 1939.

Kicking Horse River, in Canadian Rockies. Such gorges and spiral tunnels assisted engineers in linking Eastern Canada with the Pacific Coast by rail.



S. S. Lemoyne, largest lake steamer on Canada's inland waterways, can lift more than 500,000 bushels of wheat. She has a length of 621 feet, beam of 70 feet and depth of 25 feet.

Toboggans and canoes, "jeeps" of the north country, being loaded at Waterways, Alberta, for a long journey "down north" on the Mackenzie River.





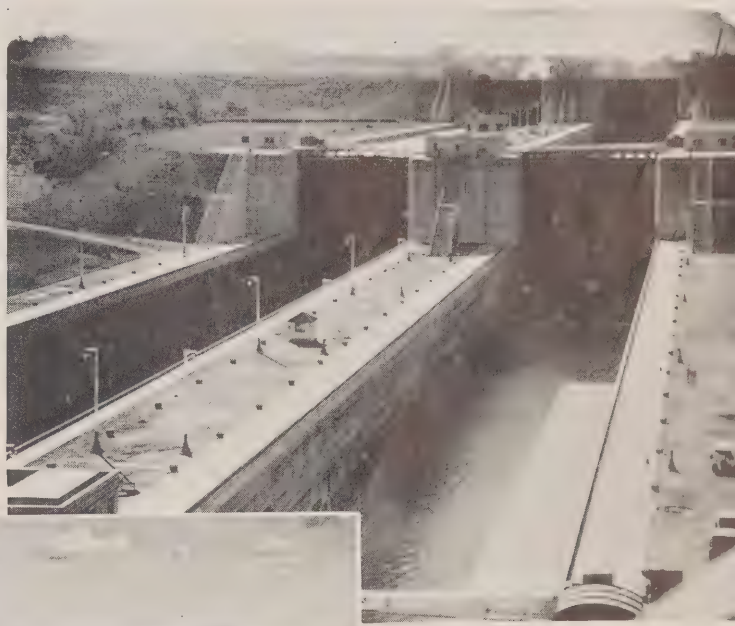
Modern coach of Canadian National Railways. Much rolling stock is manufactured in Canada.



Trolley busses and street cars serve Regina, capital of the prairie province of Saskatchewan.



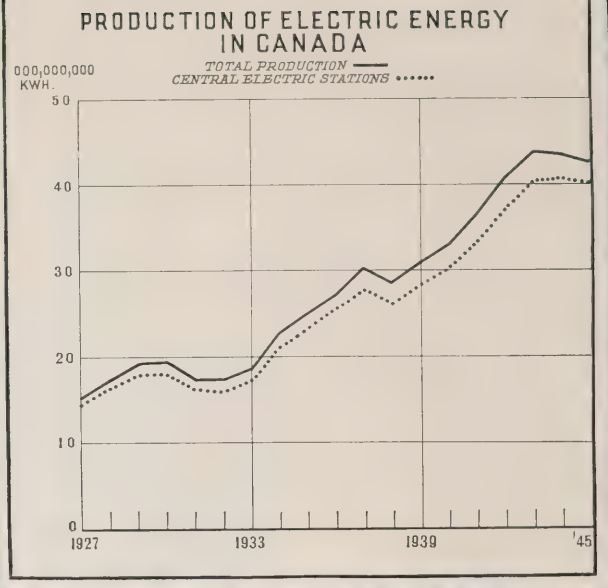
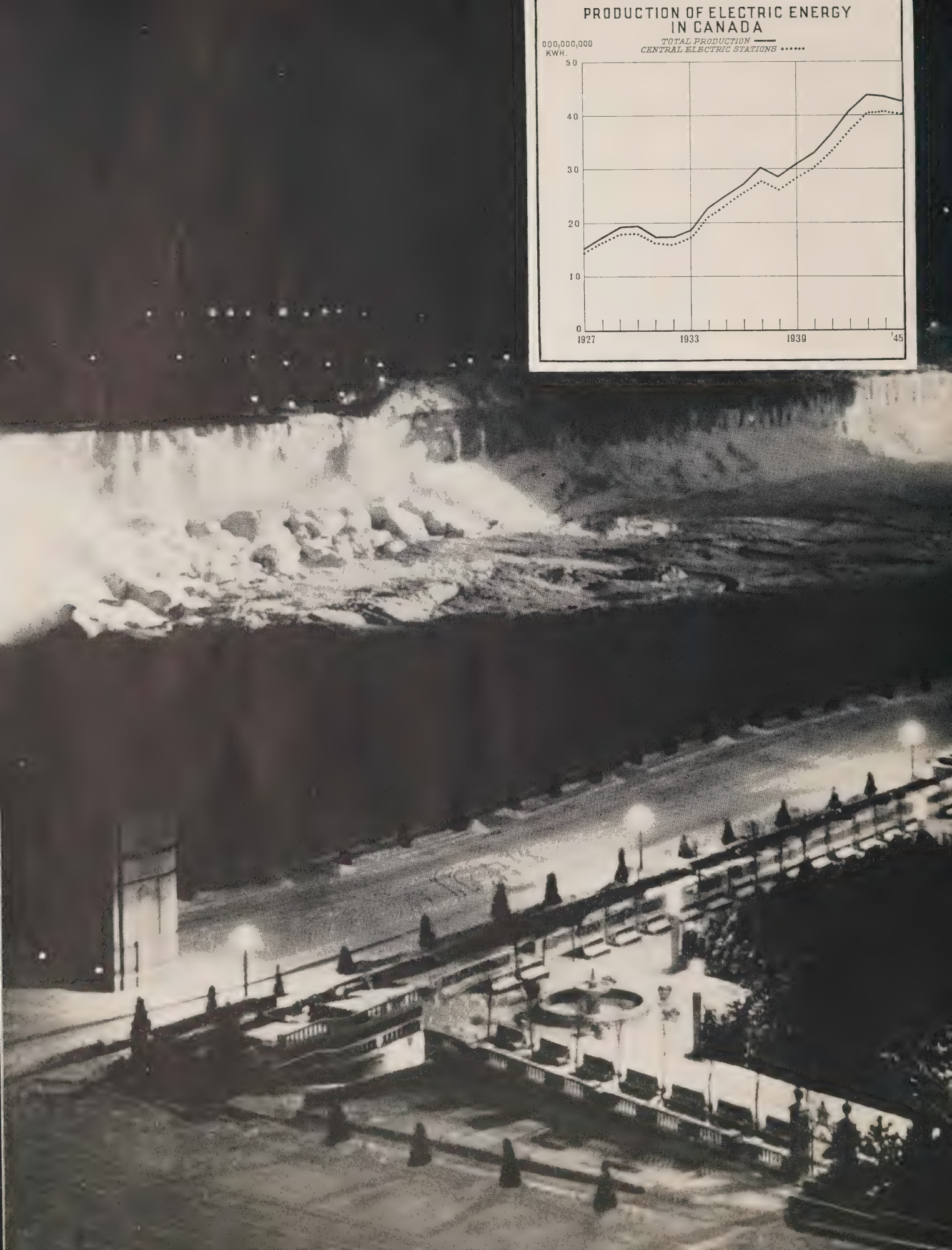
▲ *Bulk carrier Gleneagles unloads in Hamilton, Ontario, 13,592 tons of iron ore mined in the United States.*



▲ *Locks at the Welland Ship Canal, one of the greatest engineering feats in marine history, lift vessels 327 feet from Lake Ontario to Lake Erie.*



◀ *Quebec, known as the "Ancient Capital", has modern harbour facilities, including a 4,000,000-bushel grain elevator, at centre. "Plate" formations in foreground are booms of logs.*





▲ Shipshaw power development, on the Saguenay River, Quebec. The two stations have an installed capacity of 1,480,000 h.p., the output of which is largely used in the production of aluminum.

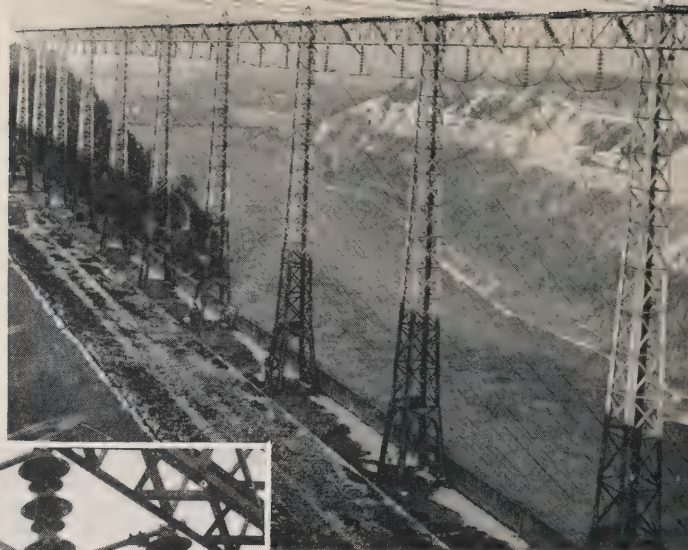
Spillway at the Ile Maligne power station, part of the Shipshaw project.



▲ Niagara Falls, illuminated at night. Plentiful supplies of water power provide a basis for Canada's industrial progress since the turn of this century. Hydro-electric installations have increased in this period from 173,000 h.p. to 10,491,000 h.p.

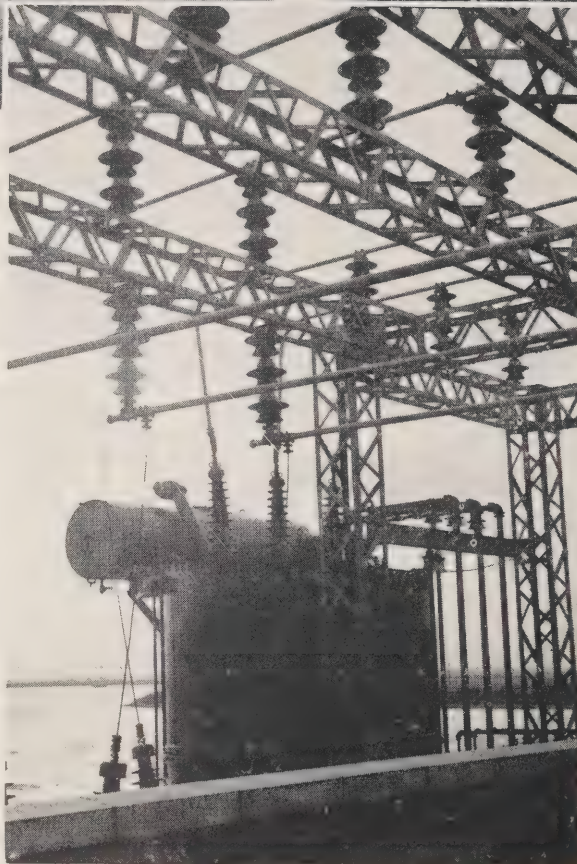


▲ Ile Maligne power station has an installed capacity of 540,000 h.p.



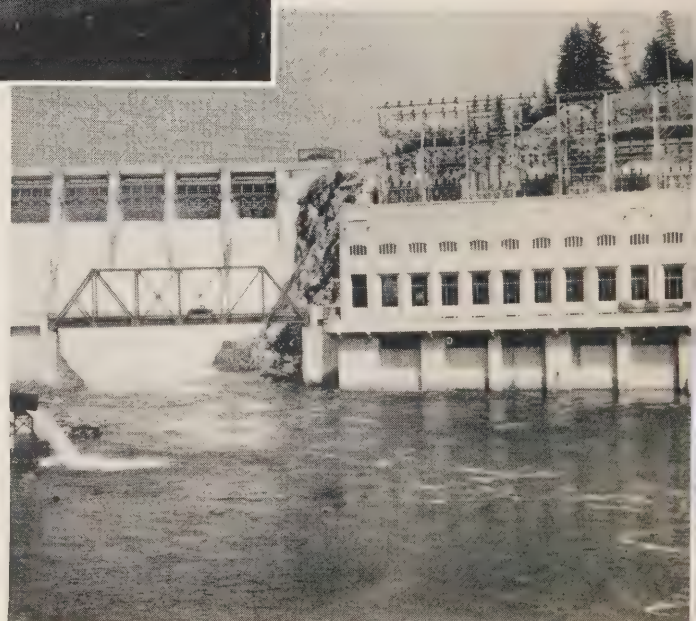
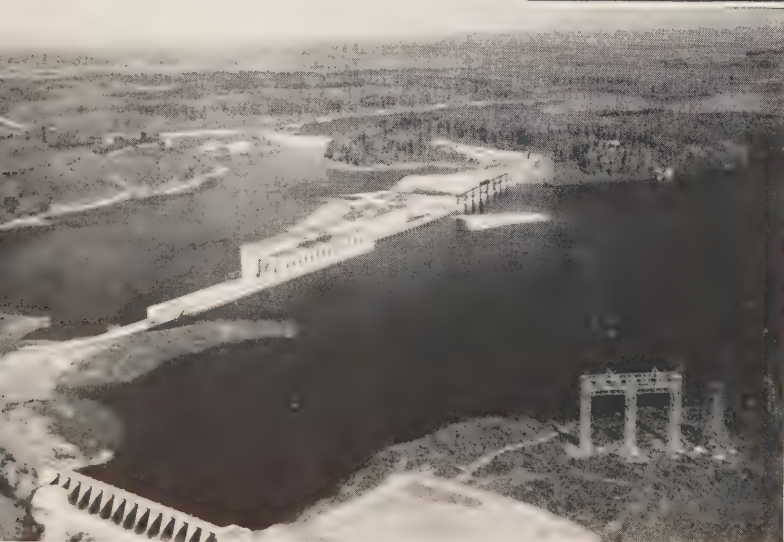
▲ Ten transmission towers support power lines that carry current generated by waters of the Niagara River.

Large insulators form part of the power plant at Beauharnois, Quebec.



Power plant at Slave Falls, Manitoba, which has an installed capacity of 96,000 h.p.

Ruskin plant, British Columbia, supplies 94,000 h.p. to industries in Pacific Coast province.



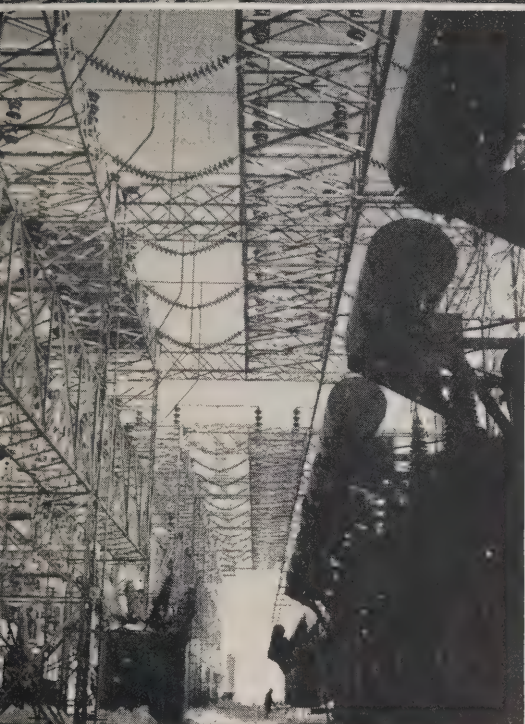


▲ Queenston-Chippawa power house, which draws water from Niagara River, has an installed capacity of 560,000 h.p.

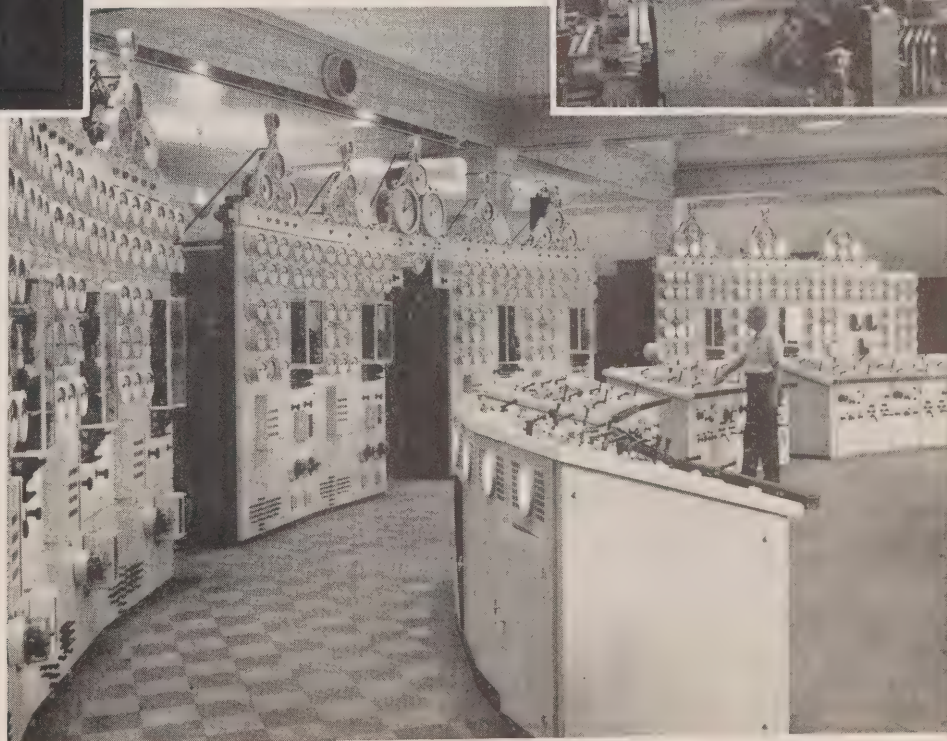
Penstocks supply water to turbines of large power plant in Southern Ontario. ▲

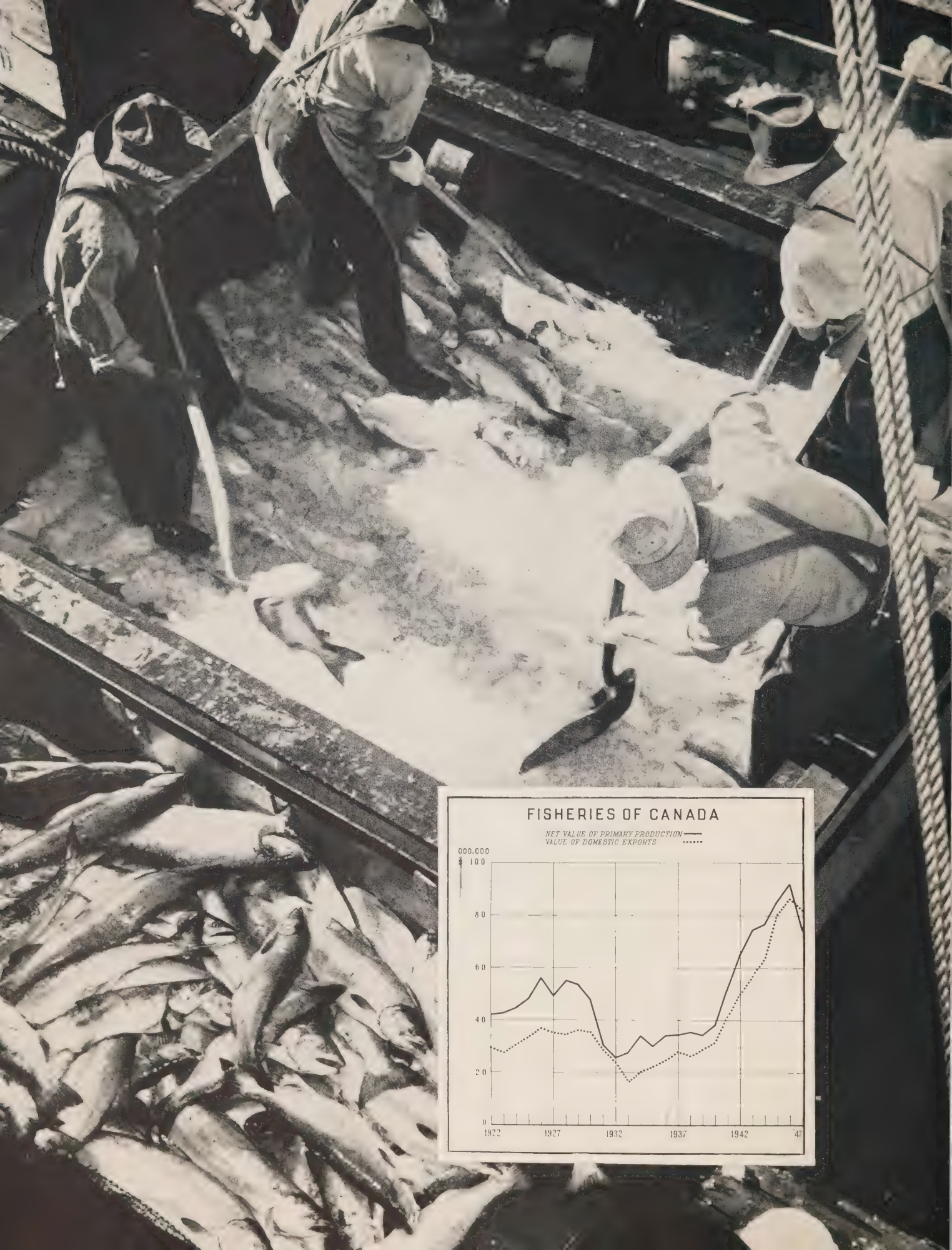
Main floor of a typical generating station, showing ten turbines. ➡

Control room of a generating station. ▼



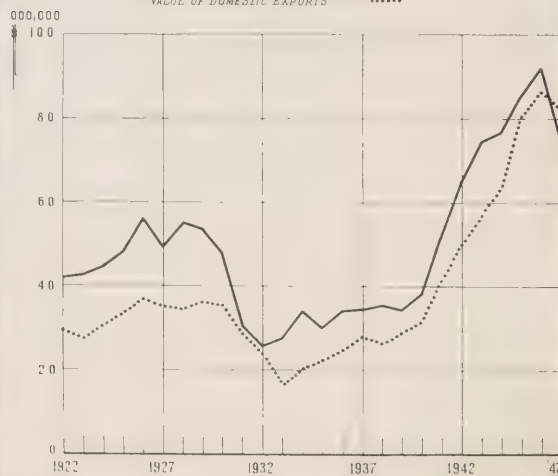
▲ Transformers at large power plant on Saguenay River.





FISHERIES OF CANADA

NET VALUE OF PRIMARY PRODUCTION —
VALUE OF DOMESTIC EXPORTS





Herrings exceed in volume the annual catch of any other fish, amounting to nearly four million cwt.

PRODUCTION IN CANADA—Continued

and the Great Lakes, providing cheap transportation for grain, coal, iron ore, pulpwood and a wide variety of merchandise. Port Arthur and Fort William, on Lake Superior, are 1,700 miles from the ocean and 602 feet above sea level.

Trans-Canada Air Lines inaugurated on April 1st, 1939, a service between Montreal and Vancouver that has been extended eastwards to Halifax, westwards to Victoria, on Vancouver Island, south to New York, Cleveland and Chicago, and across the Atlantic to Prestwick, Scotland. Connections by air are provided

by other companies to many outlying sections of Canada, such as the Yukon, important mining areas and fur trading centres north from Edmonton to Aklavik, on the Arctic Ocean, in Northern Ontario and Northern Quebec, and to settlements along the North Shore of the River St. Lawrence.

Motor cars, buses and trucks also contribute substantially to the transportation facilities at the disposal of the commercial community in Canada. Overseas trade is handled through eight ports, operated by the National Harbours Board at Halifax, Saint John,

Continued on page 43

▀ *Canada's salmon fisheries, concentrated on the Pacific Coast, yield an annual catch valued at \$20,000,000.*



Canning salmon for shipment to forty-seven countries. ➤ 1

High standards must be met by the canning industry to prevent spoilage. Laboratory tests protect the buyer. ➤ 2

Removing tiers of canned salmon from a steam retort. ➤ 3

Boxes and barrels of pickled mackerel being unloaded from a Lunenburg schooner in the Maritime Provinces. ➤ 4

◀ Unloading fish brought in from the Grand Banks at Halifax.

➤ Cod fisheries of the Atlantic seaboard are second to salmon in importance to Canada. Cod drying in the sun.





Top
Seiners brail out their nets at the end of a day's salmon fishing.

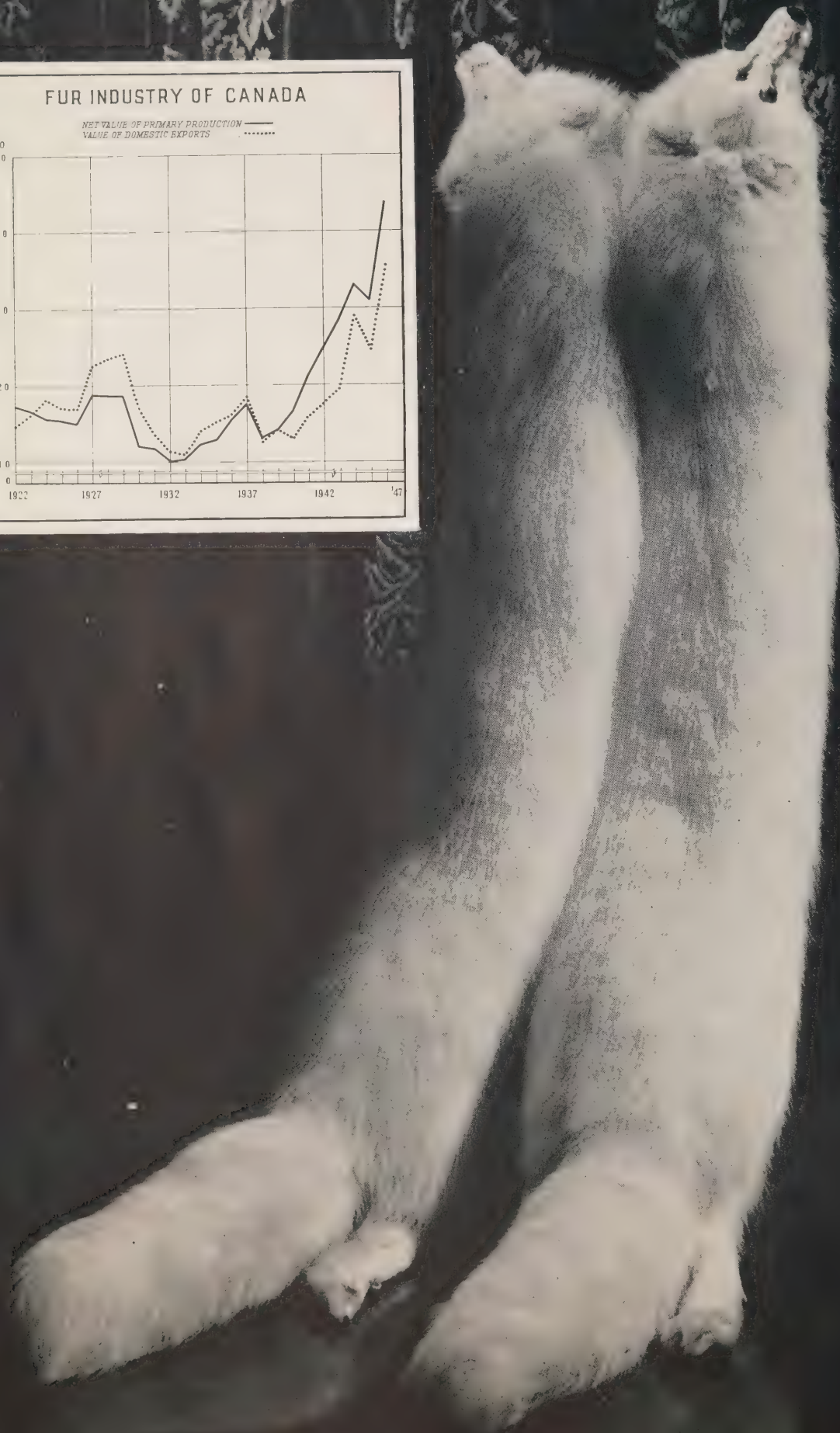
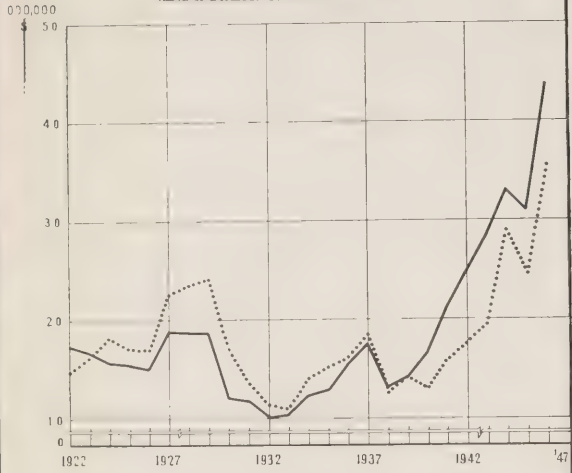
Centre
Fishing through the ice on Lake Winnipeg. The winter catch is quite substantial.

Bottom
Freshly caught salmon unloaded for transfer to a cannery.



FUR INDUSTRY OF CANADA

NET VALUE OF PRIMARY PRODUCTION ———
VALUE OF DOMESTIC EXPORTS





Canadian exhibit at International Fur and Leather Fair, in Basle, Switzerland, which attracted much attention. This featured ranched furs, such as pearl platinum and silver fox, blu-frost and silverblu mink.

Indians, whose livelihood is derived from trapping fur-bearers in winter, shooting rapids in spring.

PRODUCTION IN CANADA—Continued

Chicoutimi, Quebec, Three Rivers and Montreal, in Eastern Canada, Vancouver, on the Pacific Coast, and at Churchill, on Hudson Bay. On this trade depends the prosperity of Canada, and the possible survival of other countries that require many of the products that can be made available by this Dominion.

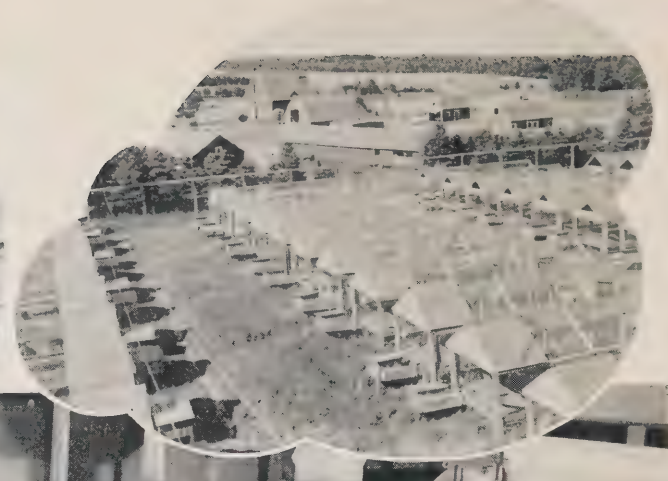
Electric Power—Plentiful supplies of accessible water power provide an important part of the foundation upon which the industrial structure of

Continued on page 46

Hudson's Bay Company post, established in 1673 at Moose Factory, on James Bay. To this and similar posts trappers bring their furs in exchange for consumer goods. Husky dogs furnish transportation in winter.

Arctic fox furs presented by Canada to Her Majesty the Queen on her visit to this country in 1939.





▲ Furs are displayed on long tables for examination by buyers attending auctions in Winnipeg.

Top Left

Indian setting trap for marten. Some 7,162,000 pelts were taken from wild fur bearers in 1945-46.

Top Right

Typical fur farm, of which there are about 6,600 in Canada. Pelt production in 1945-46 totalled 431,000.



White mink, one of many new types of mink being raised in Canada.



1 Blue fox, raised in open runs on a fur farm in Western Canada.



2 Selected silver and platinum fox pelts.



3 Trapper carries rich haul of furs to a Hudson's Bay Company post in Northern Canada.



4 Stewardess of Trans-Canada Air Lines examines mutation mink pelts that were flown to Switzerland for display.



5 Rich cargo of furs being loaded by a transatlantic air liner at Montreal.

PRODUCTION IN CANADA—Continued

Canada has risen since the turn of this century, when hydraulic installations totalled only 173,000 h.p. With the transmission of electricity over long distances came an ever-increasing demand for power with which to develop the natural resources of this country. The total on January 1st, 1948, was 10,490,923 h.p., and provision is being made for further expansion in many parts of the Dominion. It is estimated that twenty per cent of the known resources have been harnessed, and would provide a turbine installation of more than 52,000,000 h.p., if fully developed.

Canada is fortunate in having a fresh water area of 228,307 square miles, which is nearly three times the size of England, Scotland and Wales, and the largest of any country in the world. Much of this is well above sea level and, in its descent, provides numerous power sites alongside the many falls and rivers. These furnish 98 per cent of the electricity produced by central electric stations. More than half the fresh water area is in Quebec and Ontario, thereby compensating these provinces for the lack of other fuel resources.

Hydro-electric installations increased twenty-three per cent during the war years, stimulated by the demand for munitions and other supplies. The pulp and paper industry is the largest consumer of hydropower, utilizing over 22 per cent of the output of central electric stations and an additional 633,000 h.p. developed by the companies themselves. Next in order of power consumption are the metal smelting and refining industries, which include the great aluminum reduction plants in Quebec, the nickel smelters and refineries in Ontario, and the base metal industries of British Columbia, Manitoba, Ontario and Quebec. There follow electro-chemicals, ferro-alloys, abrasives and many other industries of outstanding importance in the Canadian economy.

Although the available power facilities have stimulated the production of goods required to raise the standard of life in a world at peace, they fail to meet the demands of postwar industrial expansion. Transmission lines, extending over many thousands of miles,

serve urban communities and rural areas. The Hydro-Electric Power Commission of Ontario supplies electricity to some 922 municipalities and more than 159,000 rural customers, which include approximately 68,000 farms. Power commissions and companies in other provinces are likewise contributing to the further development of their respective territories, industrially and agriculturally, while providing amenities of civilization for an ever-increasing number of Canadians.

Fisheries—Commercial fishing in Canada has made steady progress during the last hundred years, though it is known that fishermen from Europe have frequented the waters of her Atlantic Coast for more than four centuries. After drying and curing their catch, they sailed back to dispose of the fish in their home markets, and may thus claim to have established the first export industry in this land. Atlantic cod and Pacific salmon were rivals for first place in the commercial field till 1895, when the latter took an overwhelming lead. Approximately 23 per cent of the market value of all sea and inland fish caught in 1945 consisted of salmon, of which Canada exported the largest proportion in canned form. Cod contributed 17 per cent of the total market value, herring slightly more than 12 per cent and lobster just under 12 per cent. Forty-five other species of fish make up the balance.

Although many fine fish are taken from the inland waters of this country, the catch from the sea is by far the largest, representing 87 per cent of the total. There is a capital investment of some \$33,600,000 in the sea fisheries and more than \$7,000,000 in the inland fisheries, equipment ranging from steam trawlers, diesel vessels, gasoline craft and rowboats to salmon drift nets, gill nets, lobster traps and eel traps, quahaug rakes and spears. Some 540 fish-processing establishments are valued at nearly \$34,000,000, consisting of salmon canneries, fish-curing plants, sardine and other fish canneries, fresh fish and freezing plants, reduction establishments, lobster and clam canneries.

Federal legislation has been enacted to provide for

quality control. Inspection and grading are sometimes done in laboratories by men with scientific training, though qualified inspectors are also employed to ensure that the necessary standards are maintained. No British Columbia canned salmon, for example, may be shipped unless it has been approved by the Pacific inspection laboratory, while pickled herring and alewives are subject to compulsory inspection.

Fur Industry—Fur-bearing animals provided the basis for Canada's earliest industry, and the value of pelts exported in pioneer days exceeded that of all other products. Trappers often kept foxes alive until their fur was prime, and thus laid a foundation for the fur-farming industry. This is now responsible for approximately one-third the value of all pelts taken in Canada each year. Pelt production achieved a record value during the 1945-46 season, when 7,162,000 pelts were taken from wild fur-bearing animals and 431,000 from those raised on some 6,600 ranches. There were 19,561,000 pelts taken in 1942, but their aggregate value was lower.

Several centuries of hunting and trapping have not seriously affected the capacity of Canada's stock of fur-bearing animals to meet the world's demand for high quality furs. Civilization gradually pushed the fur trade back to new frontiers, first in the settlements of Eastern Canada and then into the northern territories. Extending over an area of some two million square miles, these form a reservoir from which, under wise methods of conservation, a valuable catch may be taken in perpetuity.

Canada's fur-bearing animals include the bear, beaver, coyote or prairie wolf, ermine, fisher, fitch, fox, lynx, marten, mink, muskrat, otter, rabbit, raccoon, skunk, squirrel, wild cat, wolf and wolverine. It is

considered that Canada's fur resources, instead of declining in the face of exploitation arising from the advance of settlement, will be substantially supplemented by the increase of fur-bearing animals reared in captivity. Furthermore, the development of marshlands, through the control of water levels and the creation of preserves for beaver and muskrat, has resulted in an increase in the number of wild fur bearers, and provided employment for some 18,000 hunters, trappers and guides.

Changes in the popularity and market value of furs naturally influence the fur farmer. Although the black fox was in greater demand after the First World War, popular fancy subsequently changed to quarter and half silvers. More recently, the introduction of new colour types has engaged the interest of fur farmers, who have produced the platinum, pearl platinum, glacier-blue and white marked fox to meet the popular demand. Mink has also found greater favour for coats, such as the blu-frost, silver-blu, pastel, koh-i-nur and snow-white.

A grading system for ranch fox pelts was introduced by the Canadian Government several years ago for the purpose of standardizing quality, colour type and size for the guidance and protection of both producer and buyer. This system provides for uniformity of pelts, enables the fur farmer to determine more readily the value of his pelts, and to plan future matings in order to raise the standard of quality of his pelts.

Canada markets her pelts mainly through London, the world's leading fur-trading centre, except during wartime, when the normal flow of trade is disrupted. The first Canadian fur auction sale was held in 1920 in Montreal, which has since become the principal fur mart in this country, though fur auctions are also held in Vancouver, Edmonton, Regina and Winnipeg.



Manufacturers and producers throughout the world have been invited to attend the Canadian International Trade Fair, gateway to a market place for the goods of all nations.

Location—Toronto, Ontario. — Dates—May 31 - June 12, 1948.

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